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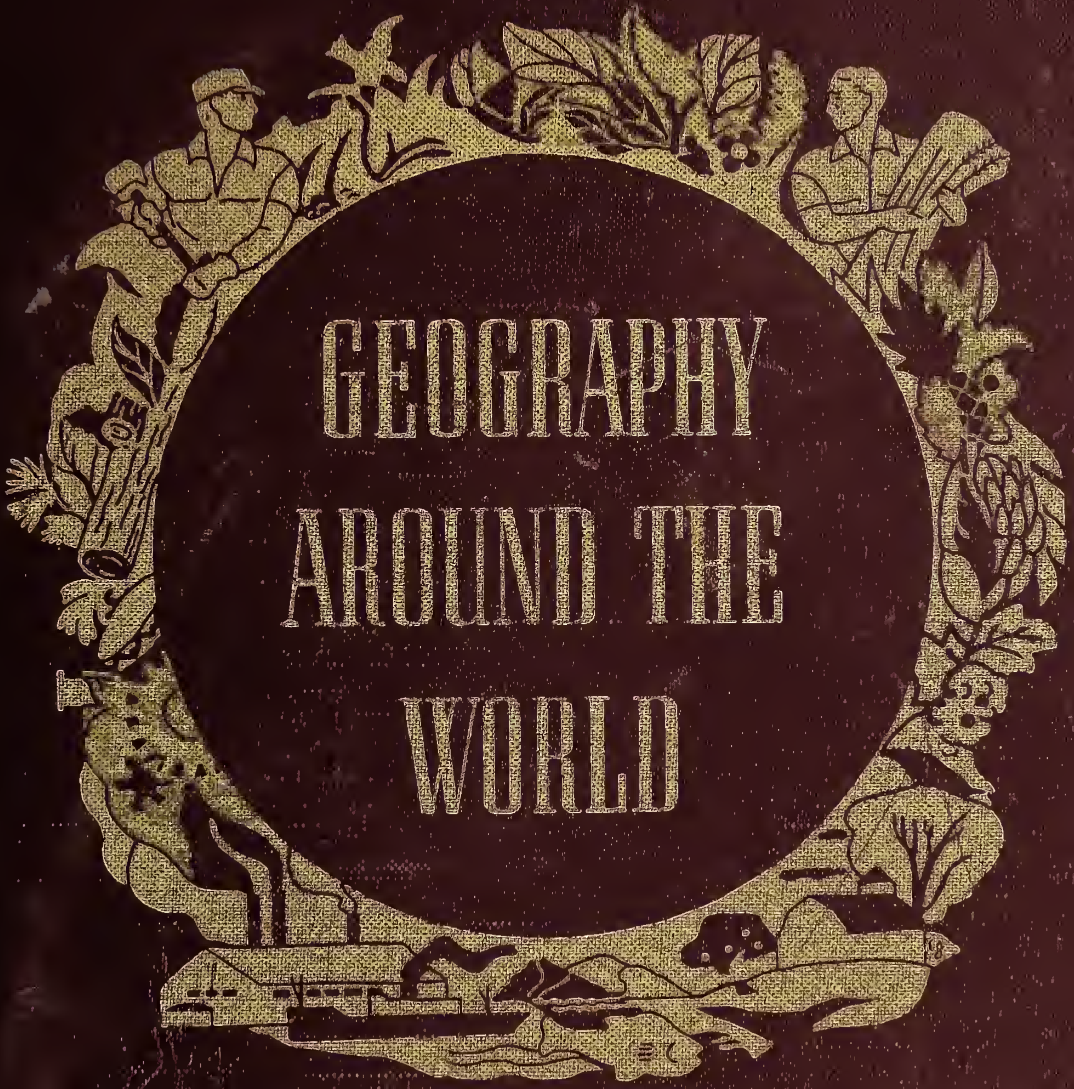

GEOGRAPHY AROUND THE WORLD

McCONNELL-WATSON

GAGE SOCIAL STUDIES SERIES

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GEOGRAPHY

W. J. GAGE & CO., LIMITED

AROUND THE WORLD

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Art Cartography by **VALDEMAR PAULSEN**

GEOGRAPHY AROUND THE WORLD ★ *A Book of the Gage Social Studies Series*

TORONTO

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To the Teacher

Viewpoint. This book presents in an interesting and simple manner a few fundamental understandings of human and environmental relationships. It provides a very elementary treatment of those phases of geography that are a necessary foundation to a later study of the subject. Only a few topics are treated. They are developed simply and gradually. Only those understandings the usefulness of which can be made clearly apparent to the nine- or ten-year-old child have been introduced. It is believed that a child should recognize geography as an interesting and useful subject rather than as a collection of facts to be memorized. He should know in a simple way the kind of world in which he lives. He should know about the kinds of people who live in various parts of the world and understand some of the simpler reasons why these people live in different ways. Above all else, his experiences with these people should be natural, wholesome, and friendly.

Mature topics postponed. Many topics of political, economic, and mathematical geography formerly presented at this level have been omitted. No attempt has been made to force mature or complex phases of geography upon the beginner. For example, the world today suffers from the ravages of man-made afflictions that have changed the normal pattern of living in many parts of the world. Reasons for these conditions are far beyond the grasp of little children. Nor do those unfortunate outgrowths of human conflict constitute a necessary or even a desirable part of the content of beginners' geography. The simple understandings that are the proper outgrowth of such a course are more clearly concerned with man's relation to his natural environment in normal times. For that reason the ravages of war and of social conflict have been disregarded in this book. Most of the peoples of the world have achieved some degree of progress. Only a few are still living under more primitive conditions. A clear and concrete picture of their ways of living, from the most primitive to the most civilized and progressive, has been depicted. Many types of communities throughout the world have been presented—all in the same interesting, simple, and natural way.

An appealing style. Simplicity and sincerity being the keys to a child's confidence, those qualities have been kept constantly in mind in the making of this book. Literary quality has been achieved by a style that is concrete and forthright. Neither in make-up nor in context is the book's appearance "textbookish." The style is colorful, sometimes dramatic, sometimes mildly humorous. Always there is continuity. Facts have not been injected merely for the sake of introducing them. If they are there, they are part of the story.

Development of concepts. A most important contribution to learning is provision for the proper presentation of concepts. Compared with textbooks of the past, the book employs only a small number of them. Postponement of more difficult understandings unnecessary at beginners' level has made possible a more desirable distribution of work throughout the elementary school.

Concepts are retained understandings resulting from experience. They are not established through mere mention of the word representing the idea involved, nor are they often established from the presentation of a formal definition of them. Concepts are established best through the learner's repeated experience with the ideas that they represent. It necessarily follows that concepts should be developed gradually, as need for their use arises, and that they should be immediately employed by the learner in a situation that to him is useful. Once introduced, they should be used repeatedly throughout the remainder of the course. This text is based upon that principle.

Background of beginners' geography. The child approaches his first study of formal geography with a certain background of experience. He may not have had a preliminary course in geography previously, but he has acquired a fairly good understanding of his own community. He has observed how the people of his own community live—how they obtain food, shelter, and clothing; how they travel and transport goods; and how they communicate one with another. He has observed how they make simple adjustments to their environment—how they take advantage of favorable conditions around them and how they protect themselves from unfavorable conditions. This course in geography should help the child expand this understanding of community living to include ways of living in typical communities throughout the world.

Objectives. The broad purpose of the course is to help the child acquire a global picture of the world and its people. To accomplish this purpose, he needs to develop the following major concepts or understandings:

1. The earth is round, with a surface of land and water.
2. People live on most lands of the earth.
3. People have the same fundamental needs and engage in the same basic activities the world over.
4. People carry out these activities in different ways because of differences in their natural environment. Their ways of living are affected by natural conditions: whether regions are hot or cold, wet or dry, high or low.
5. Regions that are at different distances from the equator have summers and winters of different length and days and nights of different length.
6. Seasonal changes are reversed north and south of the equator.
7. Highlands are colder than lowlands if at the same distance from the equator.
8. The earth has a variety of regions. Canada has a variety of regions.
9. Globes and maps help tell stories about the earth. Globes and maps are read through an understanding of symbols.

The foregoing concepts or understandings are developed in this book.

Ability to read map symbols. Traditionally, textbook makers seem to have assumed that little children are possessed with some innate ability to understand the symbolism that would enable them to read and interpret maps. The globe is the medium which should be used to establish initial understandings of the earth as a sphere. Such use of it, however, has been almost universally neglected. In this book only those symbols that represent the broadest and most easily understood concepts are introduced. Each symbol used is carefully and simply explained when it is first employed. In no other way can the fascinating story that maps and globes tell be fully understood. In no other way can maps and globes become the shorthand of geography. It is through an understanding of geography that most of us must experience our only contact with many parts of the world. It is through the intelligent interpretation of maps and globes, then, that the meanings attached to the popularized term "global geography" become vital and real. It is only through such means that the vitally useful map and globe habit can be established.

A planned map program for beginners. The maps were specially prepared to serve a new purpose in beginners' geography. They are, up to the last chapter, perspective views of the globe. Through their use it is possible to establish *correct* ideas of a global world. In its closing chapter this book further provides a carefully planned bridge between the very simple map and globe experience of this course and the more mature uses that are a necessary part of a successful course which is to follow.

Distinctive picture program. Particular attention is called to the visual materials in this book. Special care has been given to the selection of pictures. They are large, attractive, and geographically significant. They are fully explained in the text. Never is a picture shown without adequate explanation of the new idea presented in the picture. They are authentic as to place location, not only within a country but within a particular part of a country. Each picture is placed where it will serve best to build up the concept being developed. Through textual reference to the picture, the flow of thought from text to picture and back to text is logical and continuous. All pictures are contemporary in character and have been carefully checked for authenticity.

Geography in a democracy. Geography, properly presented, provides a basis for rational understandings of the world in which we live. These understandings must be presented with full recognition of the limited experience and immature capacities of little children. If children are to develop patterns of thinking that will enable them, as adults, to react intelligently to those problems that must confront them as citizens of a democracy, they must from the first have proper understandings of the world as it actually exists. To this worthy purpose *Geography Around the World* is hopefully dedicated.

◆

Acknowledgment is made of the privilege of using certain pictures not acknowledged elsewhere in the text. Pictures on the following pages are used through the courtesy of the sources indicated: page 2, Kaufmann & Fabry Company; page 12, Screen Traveler from Gendreau; pages 61 and 129, Burton Holmes from Ewing Galloway; page 88, Three Lions; page 155, Fritz Henle.

With the world closely knit together by the advance of technology, every country has an inescapable obligation to be intelligent about its newly found neighbors. Without any definite intention to build a world like this, we suddenly find ourselves living on each other's doorsteps. We do not have to approve everything our neighbors do, but we face the necessity of living close together in the same world with them; and if we remain ignorant about them—how they think and live and what social and cultural purposes motivate them—the distrust and suspicion which ignorance always creates will in the end lead to new catastrophes. No intelligent man can ever again say about any political event or social process in any part of the world: "This is nothing that need interest me."

RAYMOND B. FOSDICK
President, Rockefeller Foundation

This is our world, our great round world.

The Chicago Sun *Century Photos* *Three Lions*

The world is full of interesting and beautiful things—the kangaroo baby in his comfortable cradle, meadows in the high mountains, pet parrots which ride in their master's canoe on a river in the deep jungle.

Our Great Round World

A LOOK AT THE WORLD

This world of ours is full of interesting things. It is so full of interesting things that, even if you traveled around all your life looking for them, you would never see all of them. Though you lived to be very, very old, you would never see all of them. You would never see half of them.

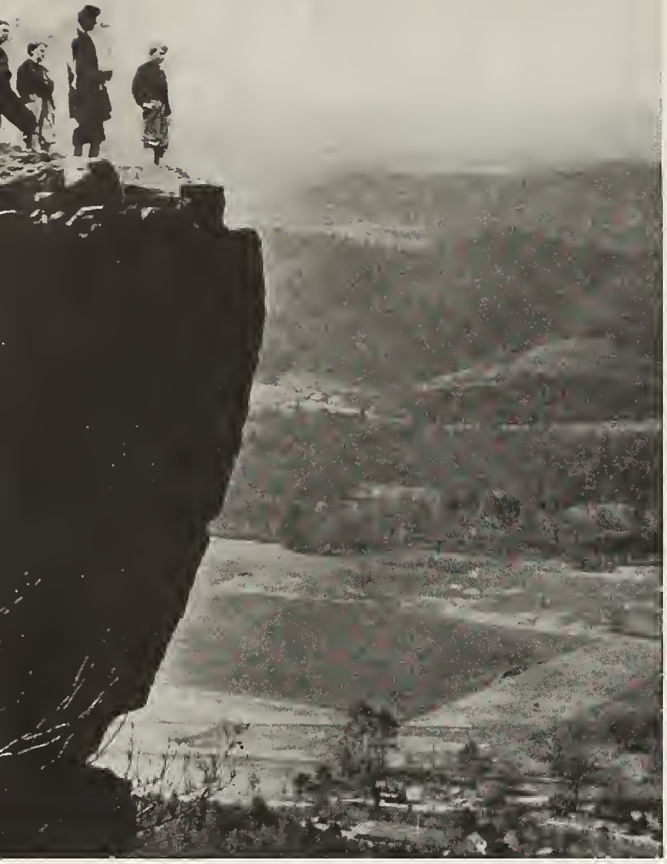
The world is full of beautiful things, too. It is so full of beautiful things that, even if you looked for them all your life, and even if you lived to be very, very old, you would never see all of them.

You need not be unhappy because there are so many beautiful and interesting things that you will never see. No one ever sees everything in the world. Yet everyone may see part of the world, and everyone may learn much about the whole, great world.

No, you will never see all the world. When you come to think of it, you will agree that you have never seen your own face! At first this fact may surprise you, but you will soon see that it is true. All that you have ever seen of your face is the tip end of your nose, and you will never see that very clearly.

Of course, you know what your face looks like because you have seen its reflection in the mirror. That is not really seeing your face. It is only seeing a sort of picture of it.

As you look at the picture of your own face and then look at the faces of other people, you see many differences. You may see that your eyes differ in color from those of other people. You may have a friend whose eyes are almost the color of your own, but not exactly. You may have a brother whose nose is almost



H. Armstrong Roberts

The boys are looking at places far, far away, but they can see only a small part of the great world.

the shape of your own, but not quite. No two faces in the world are exactly alike. When you notice the features in faces that are somewhat alike and those that are different, you are *comparing* those faces.

You cannot see the world in a mirror. You cannot see a picture of the world as you see a picture of your face. Yet you may compare your part of the world with other parts that you will read about. This book will help you do that. So will your teacher. So, also, will your schoolroom globe when you have learned to use it. The globe is a *model*, or small likeness, of the world.

How can you get an idea of what the whole world looks like? You know better than to think that it looks like your part, only larger. Suppose an old fish in the sea were to tell the young ones, "The world is all water. I've been everywhere and I know." Suppose an old polar bear in the cold north should tell her little ones, "The world is a great cake of ice. I know, for I've been all around." You would laugh at such an idea and think it ridiculous. But it would be just as ridiculous for you to think that the rest of the world is like the part of it where you live.

You can see something of your part of the world from your schoolroom windows, but not very much. If, like the boys in the picture at the left, you were to climb to the top of a very high hill, you would see more. If you were to go far up in an airplane, you would see a greater part. Even then you would not have a good idea of what the whole world looks like. Like the old fish and the great polar bear, you would be seeing only your part of it.

Suppose you were to go away up into the sky, far, far above the clouds, and look down at the world below. You would have to sit on nothing at all, for there is nothing up there to sit on.

If you could really reach that faraway place, how much of the world would you see? The world from high in the sky would look much like the full moon on a clear summer night, round and bright. It would look round because it is round. It would look bright because the sun shines upon it. You would not see farms and cities and people or anything like that from your high place in the sky. You would see only great patches of light and dark. These great patches would be the land and the water that make up the world's surface.

No, you really can't see the world in any of these ways. The best way to get an idea of what the whole world is like is to learn about its different parts. Then compare all those different parts with your own part.

How Large Is the World?

Your schoolroom globe, very likely, is small enough to rest upon your desk with room to spare. The world is so very much larger than the globe that you will find it hard to imagine how much larger it is. Here is a suggestion that should help you.

Suppose that you could take an automobile trip around the world at its widest part. You must think of this as a make-believe trip. Suppose that you were to travel three hundred miles every day. It would take you almost three months to travel all the way around the world. Miles and miles and miles! Twenty-five thousand miles!

Do you find it hard to think of a distance of twenty-five thousand miles? Of course you do, and you always will. So just be satisfied to think that the world is enormous, a wide and wonderful world. It is full of beautiful and interesting things. If you keep your eyes open, you will see many of its wonders.

HOMES IN OUR GREAT WORLD

Let us think of the homes in your part of the world and the homes in other parts. You will read a little about them here. If you wish to learn more, your teacher and your parents and other grown-up people will be glad to answer any questions you may ask.

Your Part of the World

Perhaps you live on a farm with rolling fields and green meadows. Perhaps that farm is much like the one in the picture below. Perhaps the farm is far away from town and there are no other

Taking care of the chickens, the animals, the garden, and the crops on a farm keeps all the family busy.

H. Armstrong Roberts

families living near you. Your home is a part of the world, no matter how far it may be from other people.

Some of the crops your father raises on his farm may be sent to other places far away from your home. This is important to him and to other people as well. The trucks that go swiftly along the road past your home may be bringing foods which your father cannot raise on his farm. You are almost sure to find such foods in your mother's kitchen cupboard. The trucks may also be bringing clothes for you and your family to wear. They may be bringing things for your home, or machinery for your father's farm. Here is something for you to ask questions about.

Perhaps your part of the world is a little town. Perhaps it has tree-shaded yards and pleasant homes such as those in the picture below. Your town, no matter how small it is, is still a part of the world. The trains that come puffing into the station and go puffing out again have run past farms and through towns and cities which you, very likely, have never seen. The trains bring you things to eat and to wear and to use in your home. So, also, do the trucks that go rumbling through your streets. It may be that those trains and trucks carry useful things from your town to people who live far away. This is something for you to ask questions about.

It may be that your part of the world is a city, very much like the one in the picture on page 7. It may be a noisy city with busy streets, large stores, great factories, and steaming, smoking railroad yards. Into your city roll long freight trains and huge trucks loaded with all sorts of things for the people who live there. The stores have goods of many kinds that have come from places so far away that you have never even heard

The boy on the bicycle lives in a small town. After school he delivers newspapers to homes along several streets. The houses are close together, so he can finish his job in a short time and join his friends at play.

Shigeta-Wright, Inc.

Century Photos

When you think of cities, you think of tall buildings, busy streets, and many people. Some cities are so large that most people must travel a long distance every day from their homes to the places where they work.

of them. The great factories may make dishes, or furniture, or washing machines, or farm machinery, or all of these things, to be sent to other parts of the world. Everywhere people are getting things from people in other parts of the world. Here is something for you to ask questions about.

Wherever your part of the world may be, it helps to make up the whole world, the great round world.

Other Homes in the World

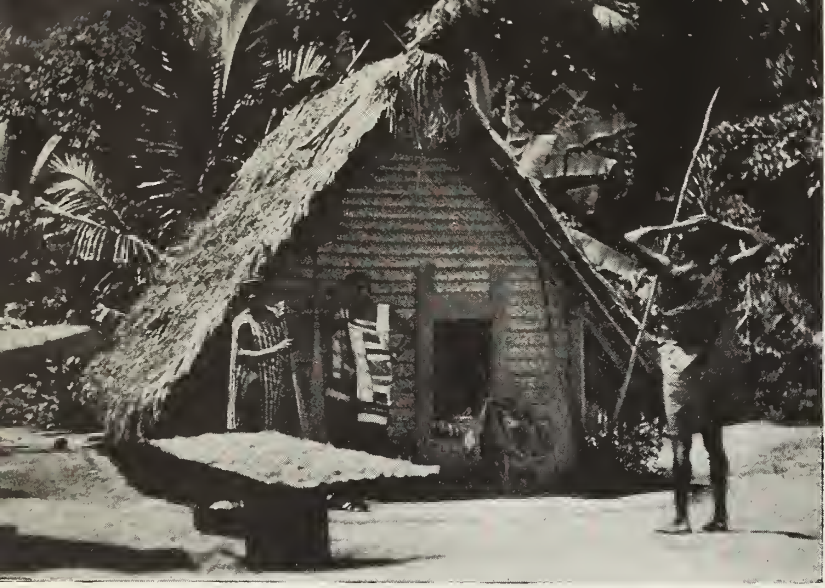
Your home, wherever it is, is very dear to you. You think it is the best place in the world, and it is right that you should think so. Almost everyone feels that his own home is the best place in the world. There is a little rhyme that runs,

East or west,
My home is best.

It will be well for you to remember that rhyme when you visit other homes of the world. If you don't, you may get the idea that other homes are not so good as your own. They aren't to you, of course. But they seem just as good to the people who live in them as your home seems to you.

Homes are built for shelter from cold or from heat, from rain or from snow, and from storms. Your home, very likely, was built to shelter you from all those things. If you lived in some lands, you would need more shelter than you now have. If you lived in other lands, you would need less.

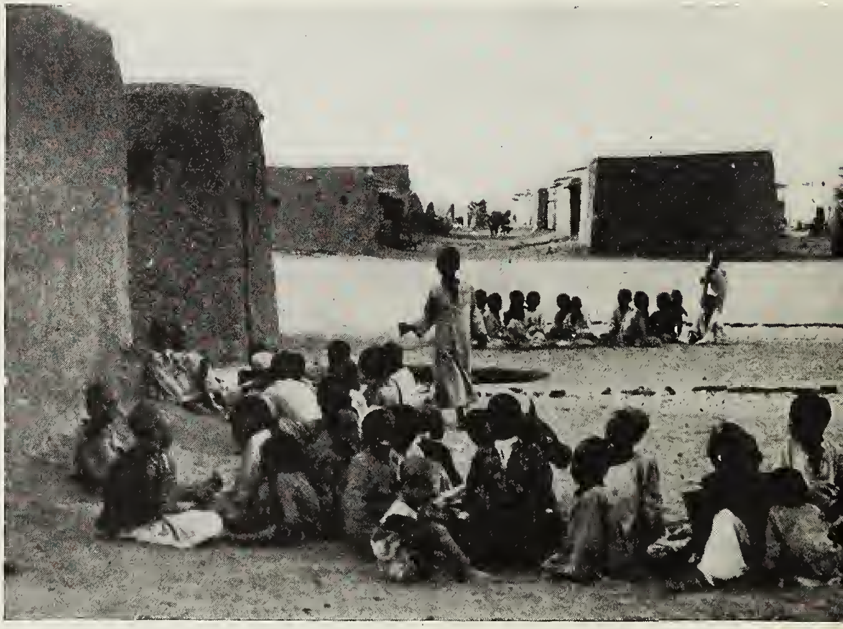
Look at the top picture on page 8, for example. This home is in a very hot country. You can see that for yourself by the way in which the people are dressed. The house is very small, for the people who live in it spend most of their time out of doors. The walls are made of



©*William La Varre from Gendreau*

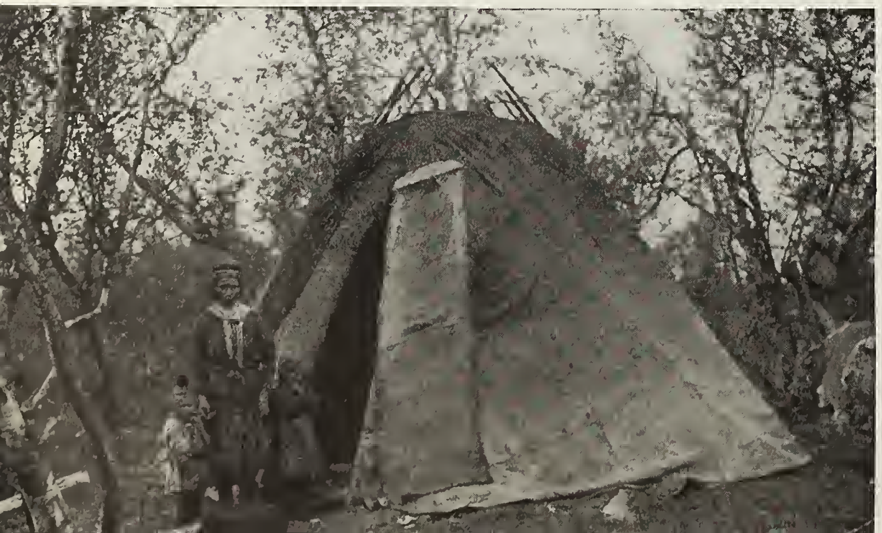
These people live in a hot wet part of the world. Their house is built of grass and the leaves of trees that grow all around them.

Ewing Galloway



In hot dry lands people build square, flat houses of mud to keep out the sun and the heat. Rains would wash them away.

Paul's Photos



The woman and her children are not camping in the woods. The tent is their home. It keeps them warm and dry.

leaves woven together. The roof is of grass, yet it gives good shelter from rain because it is so steep that the water runs off easily. This house would not give good shelter in a snowstorm, but it is a good kind of home in a hot wet land.

The middle picture on page 8 also shows homes in hot lands. These houses are made of mud baked hard in the sun. The roofs, also of mud, are so flat that they do not show in the picture. Such homes are made as shelter from heat, but they would not do very well in wet lands. Why not?

The children in the picture are having their lessons out of doors in the shade. The day was so hot that their teachers thought they were better off outside than in. Have you ever had such a day where you live?

The bottom picture on page 8 shows a very different home. It is a tent made of strong skins stretched over poles. You would not like it, perhaps, but if you lived as these people do, you would find it the best kind of home.

The people who live in this tent make their living by caring for animals such as reindeer and sheep. It is so cold in their land that grass and other plants do not grow well there. When the animals have eaten all the grass in one place, the people must move on to another. A house of brick or stone or lumber could not be moved. But a house made like a tent can be taken down and packed very quickly and easily.

Perhaps you think that this tent is not warm enough to shelter people in a cold land. But the skins keep out the strong wind and, besides, a fire is built inside the tent. Notice, too, that the mother and the children are all dressed in very warm clothing.

Now look at the house in the picture on this page. This one has been built to keep out winter's cold and summer's heat. It is also a good shelter in a storm.

Ewing Galloway

This mountain home has been built for all kinds of weather. It is warm in winter and cool in summer.

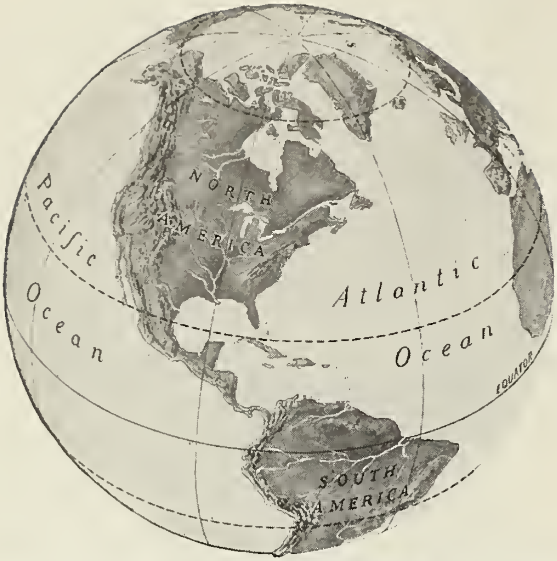
This house is more like your own home than any of the others, yet you will see many differences when you compare it with your own.

Homes and the Globe

We have been looking at pictures of other homes in the world. To get a better idea of where these homes are, let us look at the globe again.

You remember that the globe is a model of the world. The world's surface is covered with land and water. Since the globe is a model of the world, it shows the land and the water. The parts colored blue show the water. All the other colors show the land. What different colors are used to show the land? These colors have meaning, as you will learn by and by.

Look at the globe, turning it around several times. Do you see that there is



North America and South America on the globe.

more water on the world's surface than there is land? How much more would you say? Look again and make a guess. Really the world has three times as much water surface as land surface.

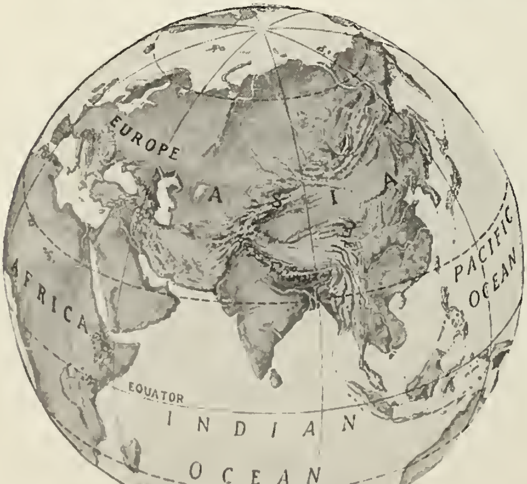
The great bodies of water on the world's surface are called *oceans*. All oceans are wide and deep and their water is salty and bitter. Look at the globe and name each one of the oceans.

The land of the world's surface is divided into seven great divisions. Each great division of land is called a *continent*. The continents are Asia, Africa, North America, South America, Europe, Antarctica, and Australia. These are named in the order of their size.

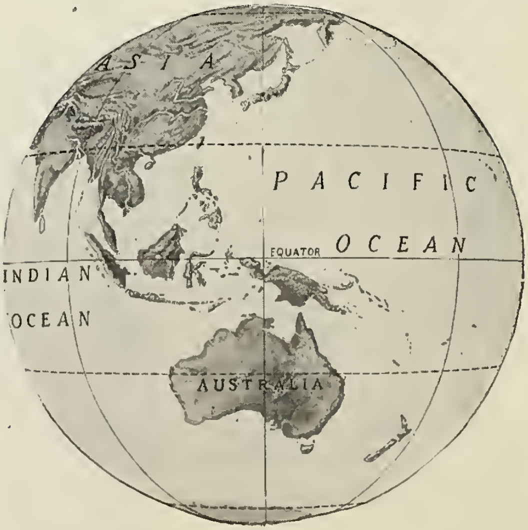
Turn the globe so that you can see North America and South America. You will be looking at the part of the globe that you see in the picture at the left. You cannot see all parts of these two continents at once. That is because they are both large and because the globe is curved like the world. You cannot see around the curve of the globe. Turn the globe again and again so as to get a good look at each of these continents. Notice that they are joined together by a narrow neck of land. Now find Antarctica. It is not far from South America.

Turn the globe so that you may have a good look at Europe and Asia. The left-hand picture below shows this part of the globe. No water separates Europe and Asia, yet each is called a continent. Look for Africa. Notice that there is a body of water between the continents of Europe and Asia and the continent of Africa. Find Australia. It is on the part of the globe shown in the picture below. As you see, Australia is very much alone in the

Looking at the continents of Europe and Asia.



Pupils in Australia like this view of the globe.



world, for there are no other continents near this part of the world.

Your home is on the continent of North America, but the people whose homes you saw on pages 8 and 9 live on other continents of the world. Very soon we shall visit these people and see just where they live. To reach them, we shall have to cross one or more of the oceans. Before we plan any of these visits, you will want to know how to find each continent quickly on the globe. You will want to know just where to find each of the oceans, too. As you study geography you will learn these things very well. It will be fun to learn them.

THINGS TO DO

Make a list of the things in your mother's kitchen that have come from some other part of the world. Coffee may start your list.

If you live on a farm, make a list of the crops your father raises.

If you live in a small town, make a list of the things the big trucks or trains bring to your town.

If you live in a city, make a list of the things that are made in your city.

Save these lists. You will want them for "The Geography Workshop." Perhaps you can keep a geography notebook, so that you can arrange your papers neatly and find them easily.

LEARNING ABOUT THE WORLD

Sometimes the world seems very large. Sometimes the world seems very small. Does it seem small to you? As you learn more and more about the world, it will seem to grow larger and larger.

Your World Grows Larger

Yes, your world is growing larger and larger. There was a time when your world was very small, indeed. That was when you were a tiny baby and lay in a very small bed. Your world was only one room then. When you learned to walk, the whole house became your world. Then you learned the differences between the various rooms in your house. You learned about them by comparing them, though you did not know that you were doing any such thing.

Your world grew larger when you were allowed to play in the yard. Maybe your yard was fenced in to keep you from running away. Still, you could see through the fence into other yards, other houses. You saw people, too. You came to know the difference between friends of the family and strangers who only passed by. You were comparing again, and your world was growing larger all the time.

After a while you went to school, perhaps in another part of town. If you lived in the country, you went to another part of the neighborhood. Your world grew larger again. You went on shopping trips with your mother to different parts of the town or to a different town. Maybe you went on a long automobile trip with your father to places far away from your home. All the time, whether you knew it or not, you were comparing the new sights you saw with the things in your home that you knew very well. Your world kept right on growing. And your world will keep on growing.

As you study geography, your world will grow larger and larger. Geography is the study of the world and its people, so your world is sure to grow larger. Very soon you will leave your own home, your own country. You will visit strange, faraway places. It will be make-believe travel, but it will make your world larger. It is easy to take a make-believe trip with books and pictures as the girl

in the picture on this page is doing. Some day you may really go to some of the places you have visited in make-believe travels. Who knows?

Can the World Grow Smaller, Too?

Older people say now and then that the world is growing smaller. When people say that, they do not mean exactly what they say. The world is as large as it ever was. It seems smaller, to older people especially, because travel is much faster now than it used to be. Because travel is so much faster, distances do not seem so great.

You have walked the distance of a mile, haven't you? Sometimes on a very hot day, or on a very cold day, a mile seems like a long, long distance. Yet if you are riding in an automobile or on a bus or a train a mile seems like no distance at all.

Do you remember that the distance around the world at its widest part is twenty-five thousand miles? How long do you think it would take to walk around the world, if you could do such a thing? If you were to walk three miles an hour, six hours a day, it would take you almost four years to walk around the world. That is too long a walk. Perhaps you would do better not to start!

The world seems very large indeed when you think that it would take you almost four years to walk around it. It seems very small when you think of how fast an airplane can fly around the world. In an airplane, such as you see in the picture on the opposite page, flying to faraway places of the world takes a very short time indeed. How long does it take an airplane to fly around the world? That is something for you to ask questions about.

The world seems smaller, too, because people have learned to send messages quickly, through the air and under the waters of the ocean. Radio and telephone messages come from the other side of the world almost as soon as they are given. Maybe you have heard your father say that he got China on the radio. You know that he turned the radio dials to just the right places to tune in with a station in China. You may have done this yourself.

Shigeta-Wright, Inc.

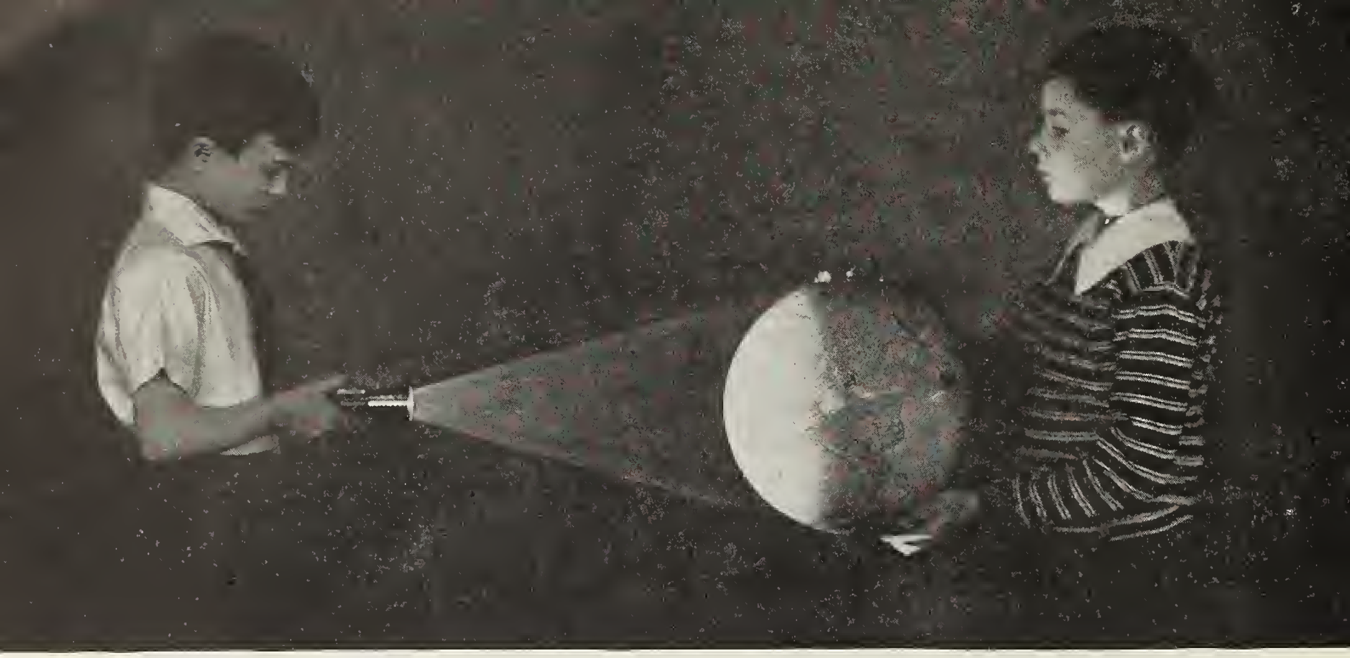
It is fun to let books take you on make-believe trips that make your world grow larger and larger.

When you look at the globe, you will see that China is on the other side of the world from you. Can you see that in one way the world is growing smaller? Can you see, too, that your world is growing larger and larger?

Your World and the Sun

Once upon a time, long, long ago, people thought that the world was flat. Even the wisest men thought so, long, long ago. It looks flat, as you can see when you look at your part of the world.

People believed, too, that the sky was a great, glassy bowl which was turned upside down over the wide, flat world. And they thought that the stars, large and small, were set in this bowl like so many sparkling and glittering diamonds.



The picture shows daytime, sunset, and nighttime. Sunrise would appear on the opposite side of the globe.

It is pleasant to think that the sky is a great, glassy bowl set with diamonds, but it is not true. To understand better why people once had such ideas, you might stand outdoors on a clear, bright night and look up at the sky with its many sparkling stars.

For a long, long time now people have known that the world is round like a ball. For a long time, too, people have known more about the stars. Of course, no one knows all about them. No one ever will. But we do know that the stars are round and large like our own world. They are millions and millions of miles away, so that they appear like mere bright specks in the sky. Some of them are very large, larger than our own world. Some of them are smaller than our world. All of them are shaped like our world.

We have been using the name *world* to speak of the round ball on which we live. This round ball is also called the *earth*. The great round ball that gives us light by day is the *sun*. The sun is many, many times larger than the earth. The *moon*, which gives us light by night, is much smaller than the earth.

We talk about the sun rising in the east and setting in the west. The sun does nothing of the kind. The earth turns round and round. As it turns toward the sun, we have day. As it turns away from the sun, we have night. The earth turns toward the east, so that the sun is always seen first in the east; it is always seen last in the west.

You will understand better how the earth gets its light from the sun if you will do this: Let someone in the class hold your globe with the part labeled *North Pole* up, and the part labeled *South Pole* down. Let another member of your class hold a lighted candle or flashlight or, better still, an electric bulb. Then darken the room so that the only light is from the candle or flashlight or bulb, as you see in the picture above. Let the person who is holding the globe turn it slowly. He should turn the globe, not the way the hands of a clock go, but the opposite way.

As the globe is turned, watch for the different continents whose names you have learned. Watch especially for your own continent. Watch the light strike the edge of your continent and spread all over it. The globe should be turned slowly, for it takes the earth a whole day to make a turn. The day has been divided into hours. How many hours?

The Globe and the Map

In this book we have pictures of parts of the globe. These pictures are called *maps.* Any part of the world may be shown on a map.

Maps show the surface of the earth as if it were flat. They are much more easily carried than globes. They can be printed on the pages of your geography book and on the pages of other books, too. They can be folded up and carried in a purse or a pocket. Very likely you have seen your father get out a road map and study it before he started on an automobile trip. You must always remember, though, as you look at the map that the surface of the earth is not really flat.

As you learned on page 14, east is almost in the direction of the rising sun. You must remember, too, that if you stand with your right hand toward the east, you will be facing north. Then your left hand is toward the west and your back is toward the south.

Before you can understand a map, you must know that *north* is always toward the North Pole. On most maps the North Pole is toward the top. Then toward the bottom of the map is *south.* Toward the right side is *east,* and toward the left side is *west.*

Why is this true? The people who made the first geographies and the first maps and globes lived in the northern part of our world. They found it easier to think of their part of the world as the *top* of the world.

There is no reason why the globe should always show your own continent on top. Your continent might just as well be shown on the bottom, or on one side or the other. Remember that the people who made the first globes lived in the northern part of the world. They found it easier to have their part on top.

You have used the words *up* and *down* almost from the time you learned to talk. You use those words every day, without thinking much about them. Now think of *up* as the direction away from the earth and toward the sky. Think of *down* as the direction from the sky toward the center of the earth. Never think of north as up and south as down. People sometimes do this, but it is not right.

Now let us turn again to our pictures of parts of the globe on page 10. There are no colors on these maps. The lighter parts show water. The darker parts show land. Find the continents and the oceans that appear on these maps. Do you see how easy it is to tell which is land and which is water?

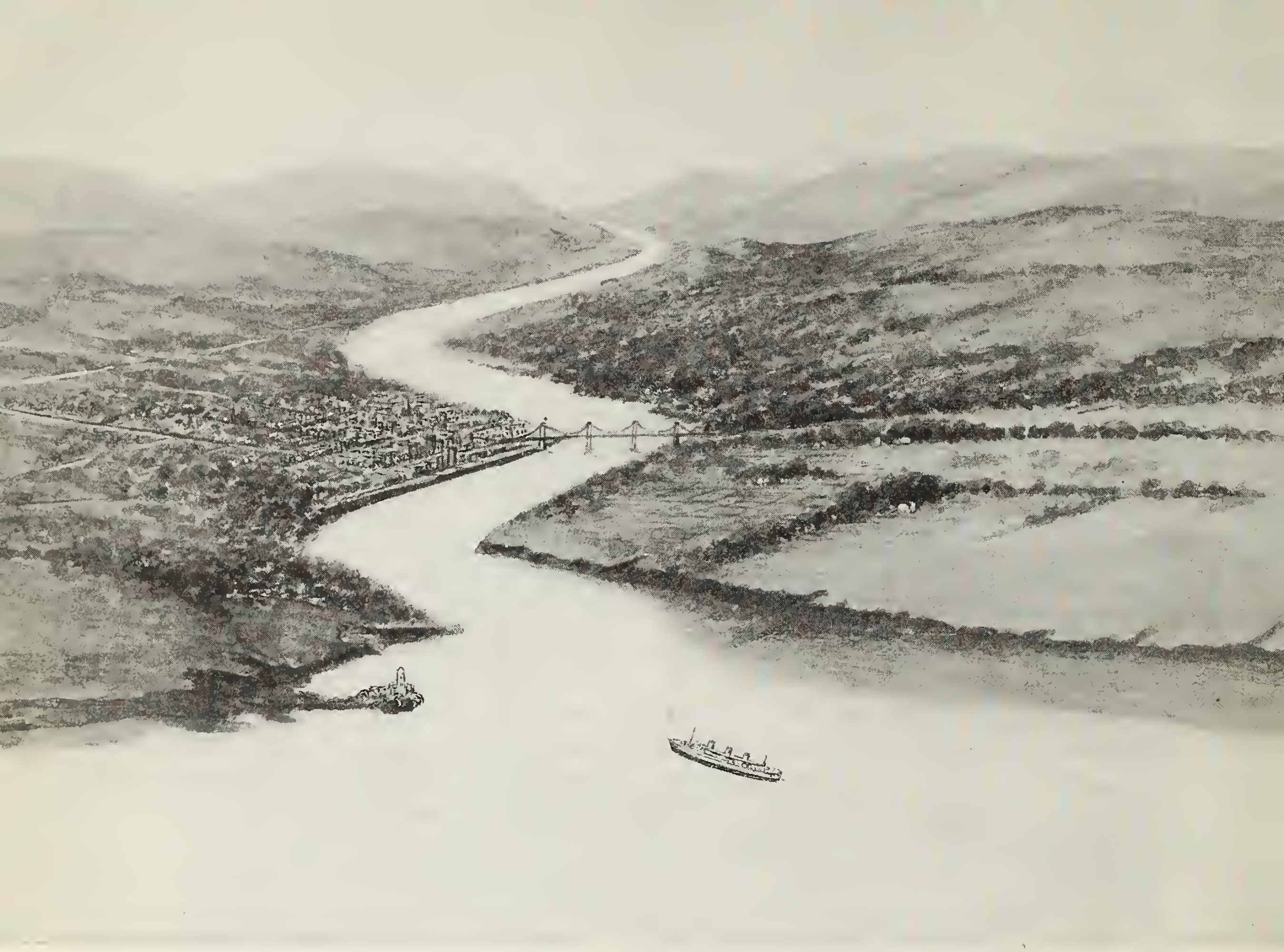
DIRECTION GAMES

Did you first learn your directions by standing with your face to the north? Then your back is to the south, your right hand to the east, your left hand to the west.

Perhaps you can tell directions quickly in that position. You should be able to tell directions just as quickly standing with your face turned in any other direction. In order to do so, you must have some practice.

Let a part of the class stand facing south. Then let the others take turns in giving the name of a direction. Everyone standing must point quickly to the named direction. Try the same drill facing east and west. Make a game of it. Keep on practicing until you are sure of your directions.

You know that often we need to name a direction that is somewhat toward the east and somewhat toward the north. Or it may be somewhat toward the south and somewhat toward the west. Thus we have in-between directions, northeast and northwest, southeast and southwest. Play the game to practice finding these directions.



The picture shows just what you might see if you looked at the river, hilly land, and city from an airplane.

MAKING THE MAPS TELL A STORY

All maps have stories to tell, but you must know how to read them. When your father uses a road map to plan an automobile trip, he uses it to show him the way. He knows what the different markings mean. So that you can learn about the stories that maps and globes tell, you will want to learn what the different markings mean, too. They will help you to plan ahead where you want to go on make-believe trips. They will also help to tell you about the places you will visit. But they will tell you these things only if you know how to read them.

Very soon we are going to start on our first visit to another part of the world. Before we go, we shall learn enough about a map to help us on our journey.

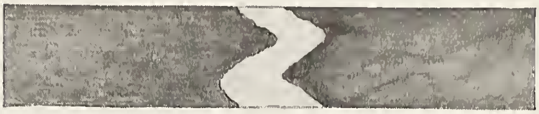
READING THE STORIES THAT MAPS TELL

Look at the picture above. No colors are used in the picture, but the land and the water are shown clearly just the same. Notice that the light parts show the water, and the dark parts show the land. At the front of the picture is a small part of a sea, or an ocean. The river that you see flows into the ocean. Notice that the river is lighter in color than the land through which it flows. Notice, too, how crooked it is. It is crooked on the picture because that is the way it really is. Rivers are crooked because the land through which they flow is uneven and water flows through the lowest places. The river winds its way through the land as it flows into the ocean. Perhaps you have seen some rivers or creeks and have noticed that most of them wind their way through the land as they flow onward.

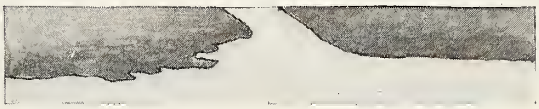
Rivers always flow from higher to lower land just as the river does in the picture. The place where the river flows into an ocean, a lake, or a larger river is called the *mouth* of the river. If you have seen the place where a creek or river flows into a larger creek or river, or into a lake, you have seen the mouth of the river or creek. The mouth of a river or creek is always its lowest part. Find the mouth of the river that is shown in the picture on page 16.

Look at the picture again and find the town. Look carefully and you can find the roads, the buildings, and the bridge that crosses the river.

Now look at the picture on this page. It is a map of the same river, ocean, and town that you see in the picture on page 16. Notice the river on the map. Compare it with the same river in the picture on page 16. Notice that the river is shown on the map by a light strip like this:

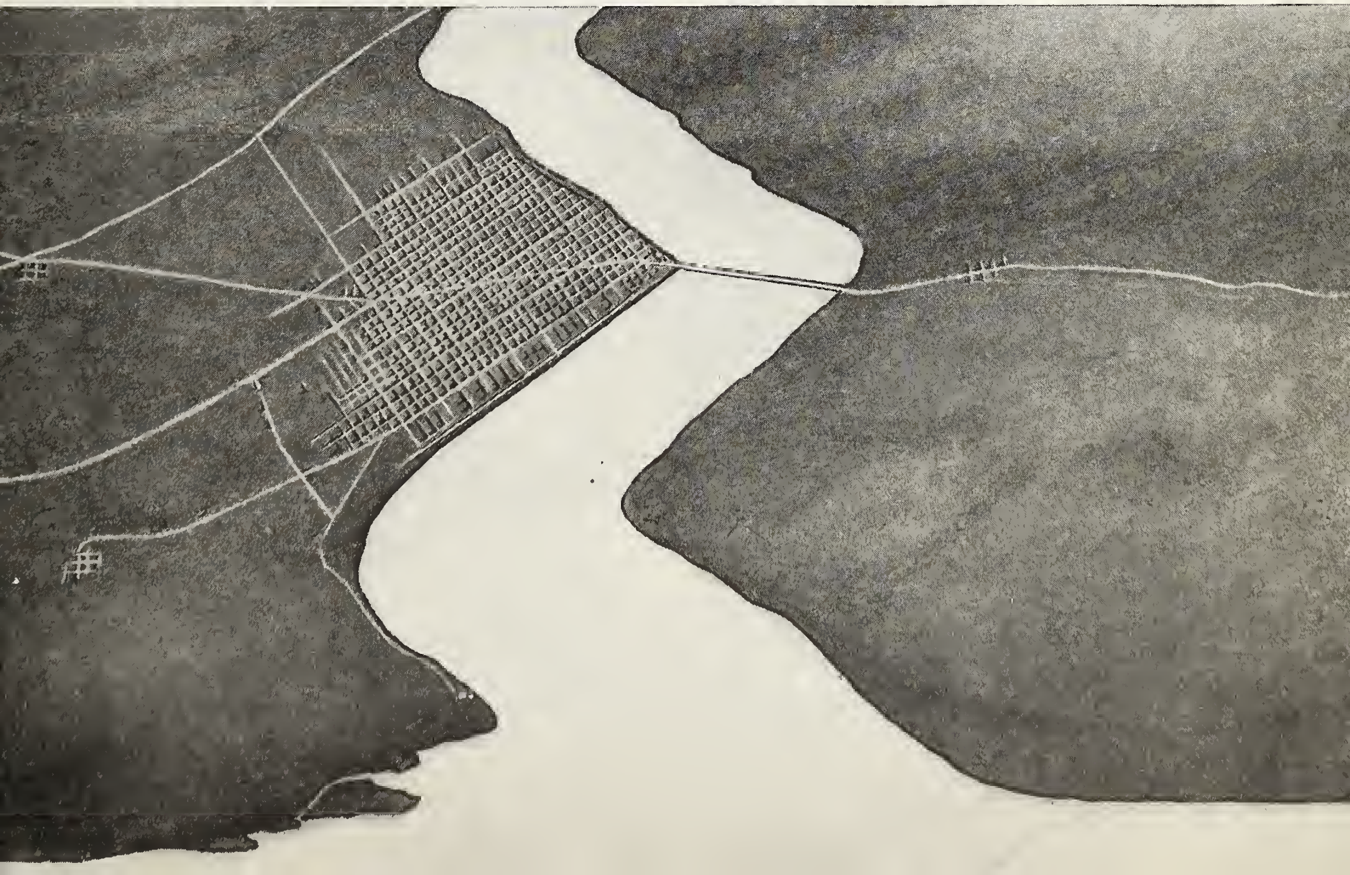


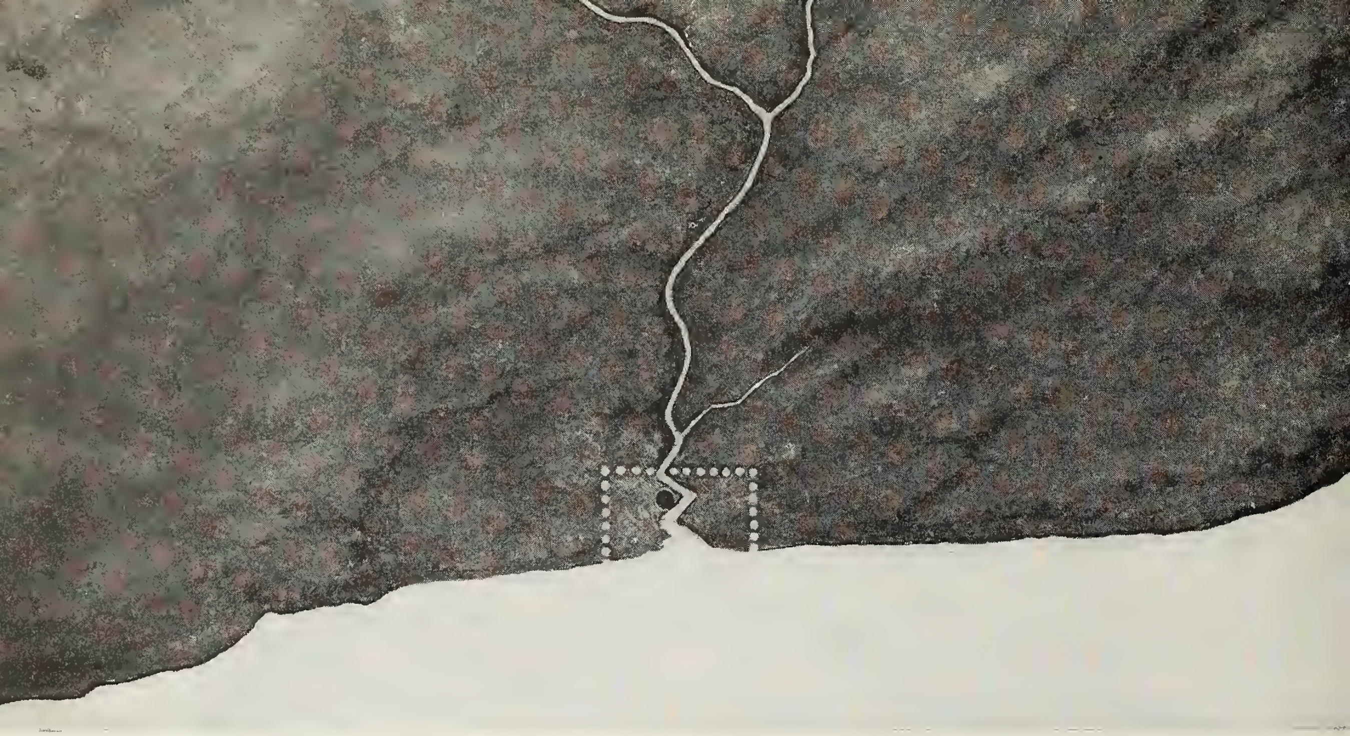
Find the coast line of the ocean on the map. You can easily tell where the land begins and the water ends. The place where the land and the water meet is called the *shore line* or the *coast line.* Some coast lines are almost straight, or regular. Others are crooked, or irregular. When you look at the map, you can see that the coast line looks like this:



Notice that the map shows some coast line that is almost regular and some that is quite irregular.

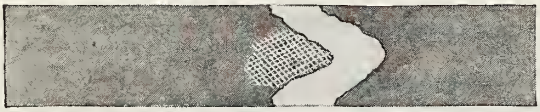
A map of the river and city that are shown in the picture. It does not show such things as ships and trees.





A map of the river and coast line shown on page 17. The dotted line marks the part shown on the other map.

Find the town on the map again. You will see that it looks like this:

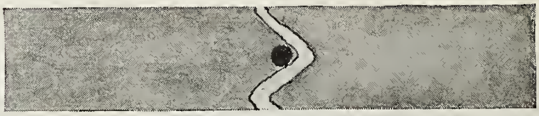


A marking on the map like the one for the town is called a *symbol*.

Now look at the large map above. This is the same river that is shown in the map on page 17 and in the picture on page 16. The river here looks very narrow, like this:

The river looks much narrower because the picture of it is much smaller. It also looks much longer because more of the river and more land are shown on this map.

On the large map above, the small part inside the dotted lines shows the same land and water areas that are shown on the entire map on page 17. We say this smaller part is on a smaller scale, so the symbol for a city must be very small. To show the city's location we use just a dot, like this:

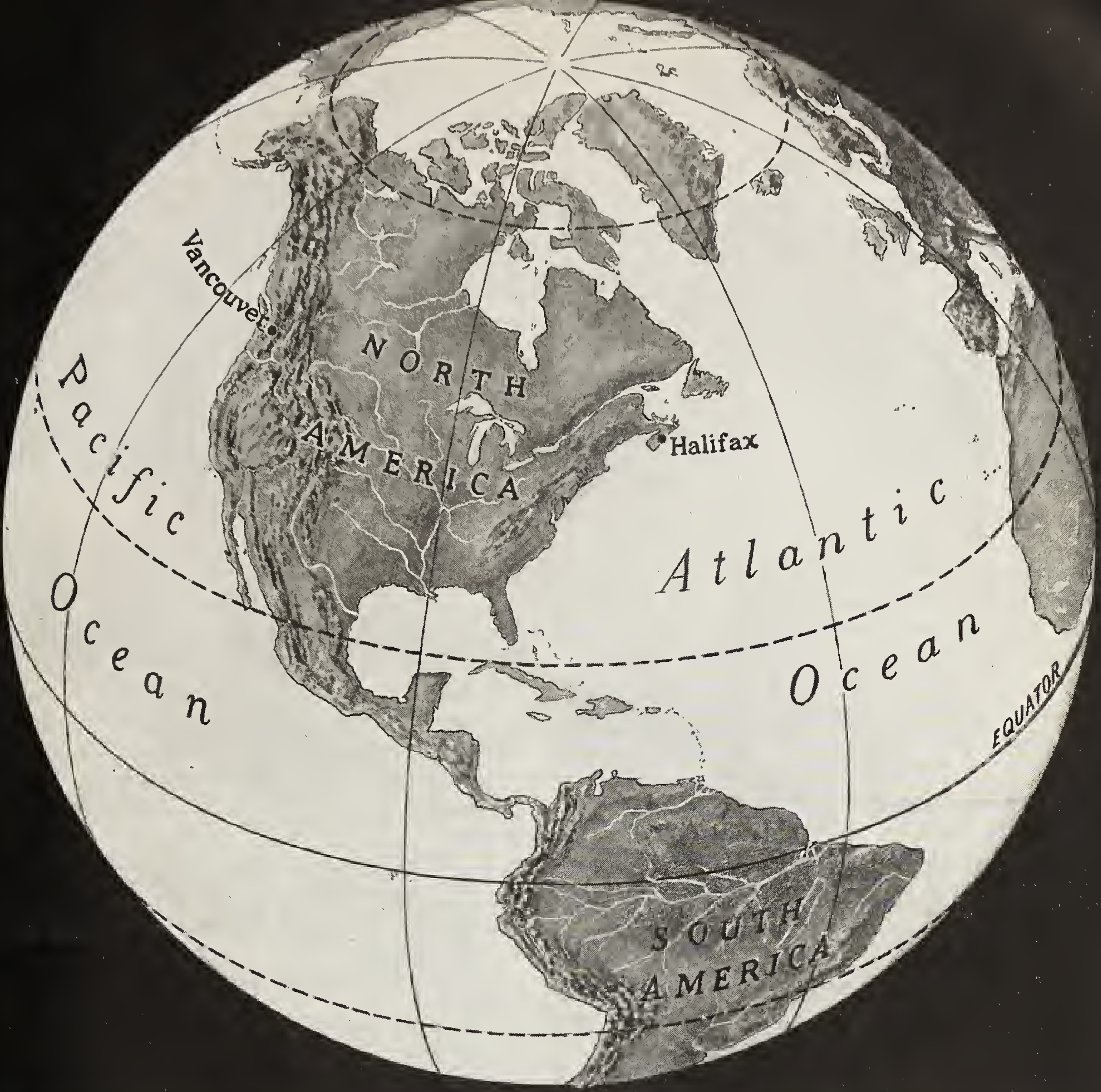


On maps of large areas the symbols are usually very small.

LOOKING AT A PICTURE OF A GLOBE

Now look at the picture of part of the globe on page 19. What continents do you see? What oceans can you find? Find some places where the coast line is almost straight, or regular. Find some places where the coast line is irregular. Find some rivers in the continents that are shown. Where is the mouth of each river? Can you find some lakes in the continents?

How can you tell which parts of this globe picture or map show water and which parts show land? How can you tell which parts of the land are higher? You should remember that the mouth of the river is its lowest part. Rivers always run from higher to lower land.



A picture of part of a globe.

THE GEOGRAPHY WORKSHOP

The purpose of this book is to help you get a good idea of the world and its people. In order to get the most out of your study of this book, you must compare your part of the world with other parts of the world. On the following pages are several suggestions which will help you.

USING THE THINGS YOU HAVE BEEN COLLECTING

Bring to school your list of foods which were brought from other parts of the world to your mother's kitchen. Compare your list with those made by other members of your class. Then make a list in class by putting together the names of all the different foods in the lists made by all the pupils.

As you name over the things, tell, if you can, the name of the country from which each one came. It does not matter now whether or not you know just where the country is. You are only beginning the study of geography, and you can't learn everything at once.

If your list is not so interesting as you think it might be, perhaps your grocer will help you make a more interesting one.

EXPLAINING SOME NEW WORDS

Below you will find two lists. In the list at the left-hand side you will find names that you have learned in studying "Our Great Round World." In the list at the right-hand side you will find a group of words that explains each of these names, but the groups are not in the right order.

Copy the list of names at the left. After each name copy the group of words that tells what the name means. Do not use any group of words more than once.

1. globe
2. continent
3. ocean
4. geography
5. sun
6. map
7. coast line
8. symbols
9. mouth

the study of the world and its people
the place where the land and the water meet
model of the world
the great round ball that gives us light
a picture of part of the globe
great division of land
the place where a river or a creek flows into an ocean, a lake, or another river or creek
great body of water
markings on the map to guide us

GAMES AND RIDDLES

Use your classroom globe in playing question games such as these:

How many continents have names beginning with the letter *A?* Which two continents have almost the same names? Which continent is all by itself in the great oceans? Which is the largest continent? Which two continents are not separated by oceans? Which continent is at the South Pole? Which continent would you reach if you were to go west from your home?

Make up classroom riddles like these. Have at least one ready for your classmates.

I am thinking of a continent. It is shaped something like a carrot and something like an ice-cream cone. What is it?

I am thinking of a continent. It must be very, very cold there. What is it?

I am thinking of a continent. It is the largest, yet has the shortest name. What is it?

CHECKING DIRECTIONS

Because you will use the names of directions so often, you will wish to know them well. Copy each of the sentences below and complete it by writing the correct word or words from the list in place of the xxxxx's.

north east northeast southeast
south west northwest southwest

1. When you are facing the east, your back is toward the xxxxx, your left hand is toward the xxxxx, and your right hand is toward the xxxxx.

2. When you are facing the north, your back is toward the xxxxx, your left hand is toward the xxxxx, and your right hand is toward the xxxxx.

3. The direction between north and east is xxxxx.

4. The direction between south and west is xxxxx.

5. The direction between north and west is xxxxx.

6. The direction between south and east is xxxxx.

7. When you are facing northeast, your back is toward the xxxxx, your left hand is toward the xxxxx, and your right hand is toward the xxxxx.

A BOOK TO READ

If you would like to read more about our great and wonderful world, ask at the library for *This Is the World,* by Josephine van Dolzen Pease. You will enjoy the clever pictures, too.

James Sawders

This boat sails the great river in the hot and steaming jungle, where there are neither roads nor railroads.

Living in Hot Wet Lands

THE AMAZON VALLEY

Let's go on a trip, all of us, together. Let's run away from lessons and visit a land that is so different from our own that even our shadows are different there.

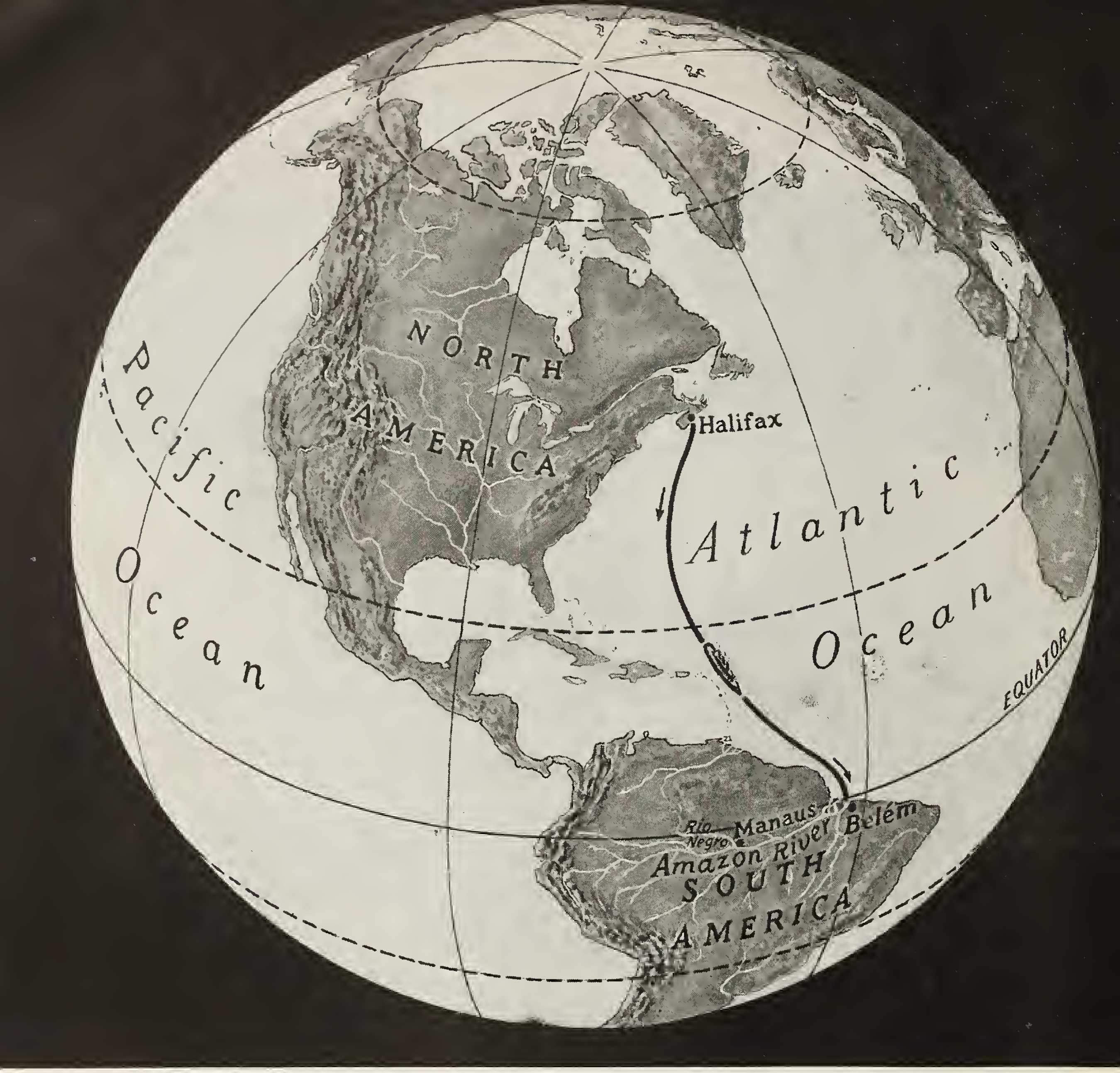
What kind of land is this? It is a land of forests and of jungles so thick that the sun can scarcely shine through them. It is a land of bright-colored birds and strange but beautiful flowers. Butterflies and moths of great size flit through the woods and the swamps and come to rest on the flowers. The colors in their delicate, wide-spreading wings are as gay as those of the blossoms, and even more beautiful.

This is a land, too, of queer-looking animals. They are sleepy-looking creatures that move through the jungle as if in a dream. Monkeys hang by their toes from the branches of the trees like a man on a trapeze. Enormous snakes creep through the swamps, and frogs sit upon the leaves of water-lily plants which are as large as the top of a dining-room table.

Where is this land? It lies in the valley of a river called the Amazon. Do you know where that is? All good travelers look at a globe or a map before planning or starting a journey. Let us look first at the globe and find South America and then find the Amazon River. In what direction does this great river flow? Into what ocean does it empty its waters?

A Great River

Now let us find the Amazon River on the picture of the globe on page 22. Notice that other rivers empty their waters into this great river. Such rivers



A picture of a globe showing the Amazon River and its tributaries in the northern part of South America.

are called branches or *tributaries*. The Amazon has so many tributaries that, on the map, it looks somewhat like a vine with many branches.

The Amazon is one of the largest rivers in the whole world. It is not the longest river, but it carries more water into the ocean than any other river. Where does all the water come from? Look again at the map and you will see that some of the tributaries come from the mountains on the west coast of South America. Melting snow and ice swell the mountain streams. Notice that nearly all these streams flow into the Amazon or into one of its larger tributaries. The picture on page 23 shows one of the smaller tributaries of the

Amazon as it tumbles down from the high mountains on its way to the great river in the valley.

The mountain streams supply only a part of the water carried by the Amazon. Most of the water comes from the heavy rains which fall in this part of the world. There are six months of rain in the Amazon Valley, and six months of drier but not *dry* weather. Indeed, there are not many days of the year on which rain does not fall in this land.

What becomes of the water? The Amazon grows wider and wider as it hurries to the ocean. Look at the map again and you will see that this is true. The river grows deeper, too. And it is so powerful in times of flood that it sweeps everything out of its path.

You may have seen spring floods. You may have seen small streams grow into large, rushing streams. You may have seen them grow so large and so strong that they carry away bushes and trees and buildings. If you have seen such a flood, you know something of the power of the Amazon, but not all.

Do you wonder why the Amazon doesn't fill up the ocean and make it run over? That is what your mother's sink would do if she left the faucets open for a long time. The ocean doesn't run over because the water in the ocean is always and always changing into *vapor*. What is vapor? Let's think of your mother's kitchen again. The heat under the teakettle changes the water into vapor very quickly. The heat acts so quickly that sometimes the kettle boils completely dry.

The heat of the sun changes water into vapor just as the heat under the teakettle does. The sun's heat does not act so quickly, of course, but it acts in just the same way. Water is always changing into vapor. You may not see the vapor in the air, but there is always some there, whether you see it or not.

Now you can easily understand that the sun's heat changes some of the water of the ocean into vapor. What becomes of it? It rises high in the air and forms clouds. The clouds rise over the ocean and float over the land. Cooler air changes them into raindrops, and down to earth they come again.

What becomes of the rain? A great part of it is taken up by the plants and trees. Part of it is used by people. The rest runs into the oceans, and the same thing takes place all over again. Water into vapor, vapor into clouds, clouds into rain. No water in the world is ever really wasted.

We were planning to take a trip to a strange and very exciting country. Shall we be on our way? Then let us find the first stop on the map on the opposite page. It is the city of Belém, which is not far from the place where the Amazon flows into the ocean. From there we shall continue our journey up the great Amazon River.

Many small mountain streams, like the one shown in the picture, help to make the Amazon a large river.

Ewing Galloway

How shall we go there? We could go to South America and into the Amazon Valley by airplane. We could go by steamship. Since we are running away from lessons, we are in no particular hurry. So let's go by steamship.

From what city shall we take the steamship? We shall have to go to a city which has a good *harbor*, a place where steamships may land. Halifax has an excellent harbor, so let's take the steamship there. Find Halifax on the globe and on the map.

There are several ways to get from here to Halifax. We might go by bus, by automobile, by train, or by airplane. You may go to Halifax by whatever way pleases you most, and we shall all meet at the harbor. Pack your bags carefully. Put in some light summer clothing, the lighter the better.

THINGS TO DO

Make a list of things you put into your bags for the trip. In doing so, remember that we shall be gone for some time and that we shall visit a hot country.

Get ready to tell about your trip to Halifax. To describe it, you will need to find out many things. Ask questions of anyone who will help you. Collect pictures of things that you might have seen on the way. Read other books that will help you to describe what you might see.

OCEAN VOYAGE

Here we are in Halifax, and our ship is lying in the harbor. Like the one shown below, it is an enormous ship, with towering hull and huge funnels! It is a comfortable ship, too, and carries everything we could wish for. These great ships are called floating hotels, because they have dining rooms, sitting rooms, bedrooms, shops, and newsstands.

From Cold to Hot Lands

We board the ship. Very soon we are shown to the rooms we shall occupy during the trip. These rooms are called *cabins*. Each cabin is furnished with a bed or with double-deck beds such as those in the picture at the right below. It also has a table, a mirror, and some

Sturdy little boats guide our ship out of the harbor. One of our cabins is shown at the right. Notice the porthole behind the curtains. We can open it to let in the salt sea air. Soon we shall need the electric fan.

Ewing Galloway Photos

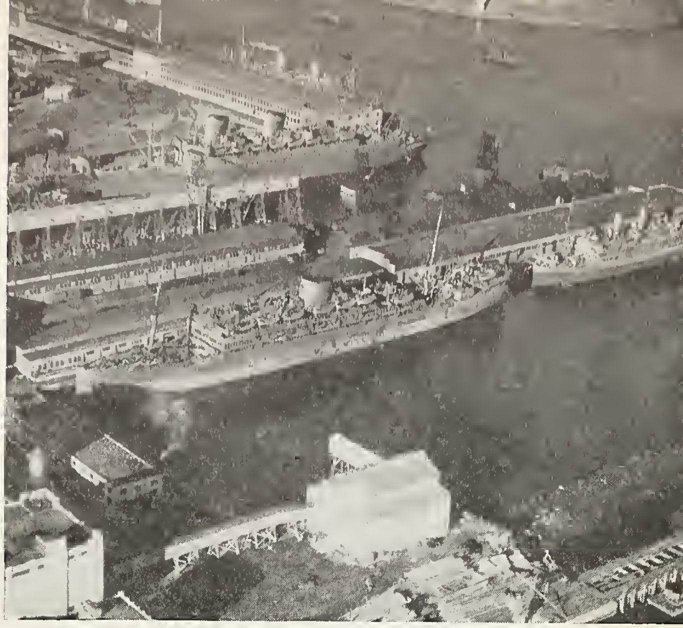
chairs. The one small round window is interesting, for we have never seen anything like it before. It is called a porthole and it looks out on the ocean. The cabin is pleasant, but we put down our baggage and hurry out. We are eager to see the rest of the ship which will be our home for several days.

As we walk about on the ship, we pass large sitting rooms where people are chatting or reading. We stop at one of the little shops where candy, soda water, and other such things are sold. We glance into the dining room where there are dozens of tables laid with snowy-white cloths and shining silver. Then we hurry out on deck.

The ship is now moving out of the harbor, and this is an interesting sight to see. It backs slowly away from the pier, and then it must turn around. As we leave the harbor, we pass ships of all kinds and from many different countries. Among them are passenger ships, tramp steamers, naval ships, and many little fishing boats. Halifax is one of the great ocean ports of the world and has a very fine harbor. The picture above shows you a small part of the harbor as seen from an airplane. The great liners shown there are only a few of the number that can be sheltered at Halifax. We turn for a last look at the great port. It will be many weeks before we return.

The air is raw and cold on the deck, so we walk briskly to keep warm. Some people are playing lively games. Others are walking as briskly as we are. We pass a swimming pool on one of the decks. We can't help wondering who would be brave enough to go swimming in a wind as cold as that which blows now from the ocean. We shall see, by and by.

In two or three days we are far from Halifax and the wind is no longer cold. The breeze is warm and pleasant, for we have been traveling southward. The farther south we travel from Halifax, the warmer grow the days. Now the swimming pool is almost never empty of bathers and swimmers. They dash in and out of the pool and then sun themselves in the sand around its edge. We are glad that we brought swim suits, and gladder still that we brought our light summer clothing.



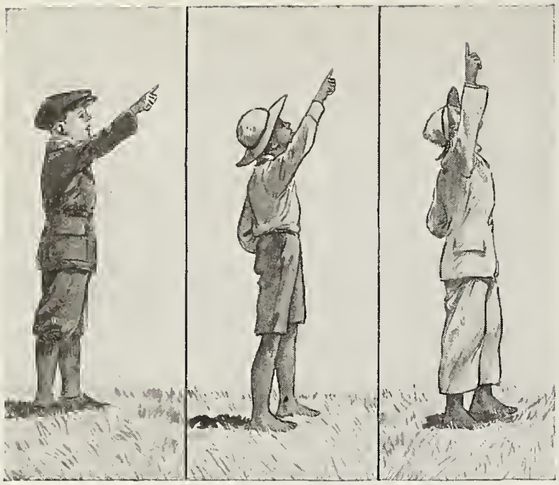
Courtesy National Harbors Board, Halifax

The picture shows a small part of Halifax harbor where the great liners dock.

The days grow warmer and warmer. We stay in the shade as much as we can, for the noonday sun is hot. It is high in the sky and it seems to shine almost straight down. When we left Halifax, the noonday sun was south of us.

Now we put on dark glasses and look toward the sun as it appears in the sky. It seems higher, much higher, than it ever has seemed at home. It is nearly straight overhead. Is the sun really higher? No, it only seems so because we have come to a different part of the world. We have come to a part where the sun shines more directly upon us.

Let's study the top picture on page 26 so that we may better understand the sun's position. The boy on the left in the picture is pointing toward the noonday sun as we would have pointed in Halifax; that is, he is pointing south-



Three boys pointing toward the sun at noon. How can we tell which boy is closest to the equator?

ward. The boy in the middle of the picture above shows where the noonday sun was when we were about halfway between Halifax and Belém. The boy on the right shows where the noonday sun will be when we reach Belém. This boy is pointing almost straight overhead. Notice the short shadow cast by the boy at the right.

Have you ever noticed that the noonday sun at your home is higher in the sky in summer than it is in winter? It is, whether you have noticed it or not. This is one reason why it is warmer in summer than it is in winter. The higher the noonday sun, the warmer the weather. The lower the noonday sun, the colder the weather.

On and on and on our ship sails to the south. Both the sky and the ocean look much bluer than they did when we were in New York. They are such a beautiful blue, such a deep-blue blue! We have never before seen such coloring, and we never get tired of looking at it.

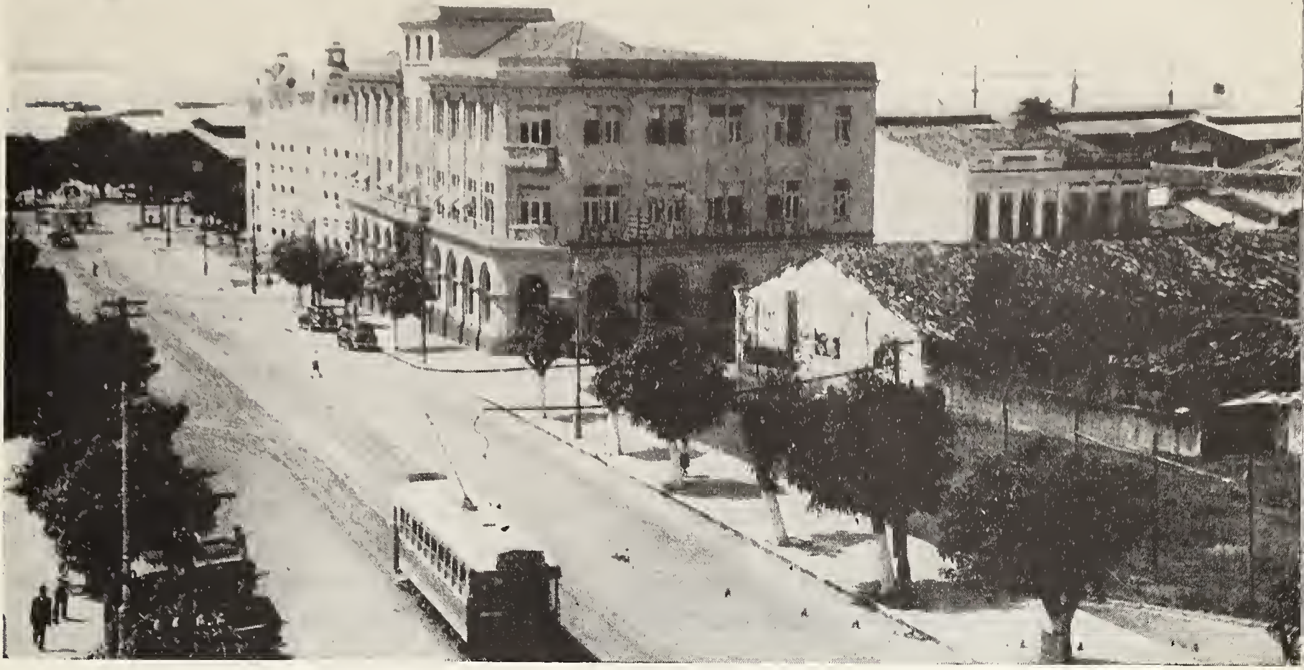
Flying fish dart up from the blue water. These fish do not really fly. They only seem to do so. Their wide fins hold them up as they leap from the water. They shine like silver against the blue of the ocean. Sometimes we see dolphins, strange animals of the sea that look something like fish. They seem to like our company, for they swim near the ship for hours at a time. We surely like their company, for they are very amusing. They swim about in circles or tumble about in the water and make us think of puppies at play.

Four days on the wide ocean without even a sight of land! The days go by very quickly on this comfortable ship. And now we have come to an island, and another, and another. We find the islands on the map, as good travelers do. We look at them eagerly as they appear beyond the blue waters. We have not grown tired of looking at the water, but it is pleasant to see land again. These islands make interesting pictures against the blue sky.

Tall palm trees, such as the tree in the picture below, grow along the shores of the islands. They sway gracefully in the

The coconuts grow in clusters near the tops of the palm trees. The leaves look like giant fans.

Three Lions



Weimer from Three Lions

The picture shows a street in Belém near the Amazon River. What things remind you of your own country?

wind. Their long, feathery leaves, which grow near the tops, wave in the warm, sunny air. They are coconut palms, we are told. At once we think of coconut candy and coconut cake. Yes, the coconut used in cake and candy comes from such trees as these.

On and on steams our ship! It steams on and on to the south. Now we are uncomfortably warm. The sun, almost straight overhead, shines with a burning heat. The air all about us is hot. The air that comes up from the ocean, filled with vapor, is hot. Hot! Hot!

The ocean is no longer a beautiful blue, but a dull, yellowish brown. It is no longer clear and sparkling under the bright sun. What has happened? We are near the mouth of the great Amazon. That river carries so much muddy water that it changes the color of the sea for miles and miles from the river mouth.

Now we see land again. This time we do not see tall coconut palms waving their feathery leaves against the sky. Instead we see a dark, thick forest. We have never before seen such a dense forest. Are we looking into a jungle?

The City of Belém

Our ship turns to the west. We leave the ocean and enter one of the mouths of the Amazon. This river has more than one mouth. Look again at the map on page 22 and see for yourself. We hurry forward on one of the decks of the ship to get a better view of the land we are to visit. Soon we sail into the harbor of Belém.

We feel a little disappointed as we watch this city coming closer and closer into our view. From a distance the white buildings look much like those of a city back home. Have we come so far to see a city like those we know? Yet, even as we look, we see that the large buildings, the churches, and the houses are half hidden by thick foliage such as we would not see in our country.

Later we walk through the streets of Belém. Part of the city is shown in the picture above. We see automobiles such as we have seen at home. Some of the streets are paved, some are not. Some of the people are dressed much as we are, some very differently. Here comes a dark-skinned man dressed in short trousers and an open shirt, with a great basket of fish on his head. Behind him comes his brown-skinned wife in a gay yellow dress and a bright-red scarf. On her head is a flat basket of vegetables. The man and his wife walk slowly through the streets and do not seem to mind the shower that comes suddenly down.

The hotel where we spend the night is clean and comfortable. The rooms are furnished much like those at home. Over each bed hangs mosquito netting to keep out the hundreds of insects that hum through the air. We find many things like those at home and many things that are strange to us.

Belém, we are told, is a rubber port. This means that it is a port from which much rubber is shipped. So we know at once that rubber is grown in the Amazon Valley. More than a hundred years ago the first rubber shoes that ever were made, were made in this very town. Only, the city was not called Belém then, but Pará. The Indians of this country made the first rubber shoes and sent them to our country.

When people came to know how comfortable it is to wear rubbers on a rainy day, Belém began to grow. It grew and grew, and it came to be a rich and proud city. Ships from many parts of the world sailed into its port, bringing all sorts of goods. They sailed away again, carrying cargoes of rubber.

Now Belém is not so busy as it once was. This is because better rubber is grown with less work in other parts of the world. Yet even now Belém is a fine and interesting city.

THINGS TO DO

Ask at your library for a book called *Tugboat.* It was written by Henry B. Lent, and it gives you a splendid idea of the work of these busy little boats.

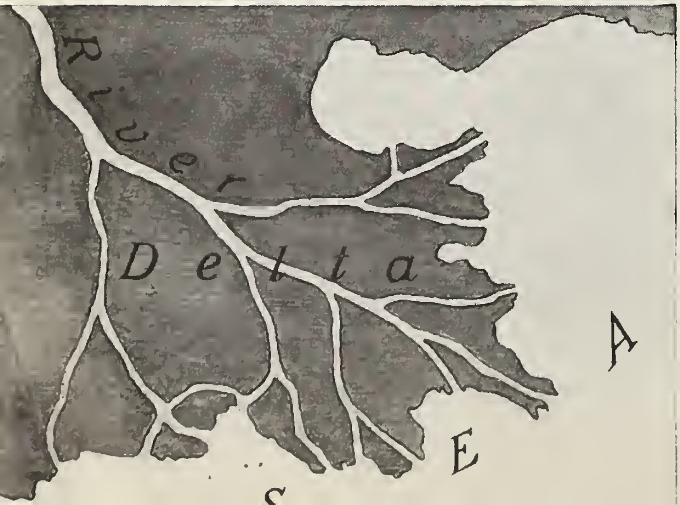
Write a letter to your mother telling her about all the sights you have seen on the way.

GOOD TRAVELERS STUDY MAPS

Good travelers find it interesting to study their maps when a journey is done. While we rest here at Belém, let us turn back to the map on page 22. Let us trace our journey all the way back to Halifax and then back to Belém again.

We know that the Amazon has more than one mouth. Which mouth did we enter? Follow the river from some of its mouths back to the land through which it flows. Notice that the river breaks up and flows into the ocean through several smaller streams. Why is this? The river brings more mud than it can possibly carry all the way to the ocean. The mud is dropped where the river meets the ocean. After many, many years the mud forms strips of land between which the river flows in several streams or branches.

Land built up in this way at the mouth of a river is called a *delta.* At the left is a map of a delta. This is not a map of the delta at the mouth of the Amazon River. Deltas are not all exactly alike. They are


A map showing the delta of a large river.

all formed in the same way, however. Notice the many strips of land, or islands, at the mouth of the river.

Now turn again to the map on page 22 and find some of the larger tributaries of the Amazon. Notice in what direction they flow. Find the Rio Negro. When you know that *Rio* means "river" and *Negro* means "black," can you describe the waters of the Rio Negro? Notice that the Rio Negro does not flow exactly east or exactly south. It flows halfway between south and east, or southeast. Are there any other tributaries which flow southeast?

We are going on up the Amazon now toward the place where the Rio Negro empties into it. We are going to a city called Manaus. Find it on the map.

ON AND ON UP THE AMAZON

After a good night's rest at the hotel in Belém, we start on our journey again. The boat which we board this time is not nearly so fine or so large as the big ocean steamship which brought us to Belém. It is like the one in the picture on page 21. This is only a river boat, not a floating hotel. It is comfortable enough, though.

We have brought hammocks to sleep in and mosquito netting to hang over us as we rest. We have worn our lighter clothing. We have lightweight hats to keep the heat of the sun from our heads and colored glasses to protect our eyes.

As we sail out on the Amazon, we are surprised to see that the stream is narrow. Isn't the Amazon a very wide river? Yes, it is. But we are on one of the smaller streams which flow through the great delta. You remember that the Amazon is broken into many small streams at its delta.

Since the boat is not nearly so large as the ocean steamship, not nearly so many people are needed to run it. Our boat has only a small crew compared to the crew of the ship. The pilot is a very important member of the crew. He stands near the front of the boat where he can see all the curves of the river and the shallow places in the water. He tells the man who is steering the boat just where to turn to keep out of danger. He also watches for logs that come floating down the stream. Some of the logs are so big that they would wreck the boat if they were to strike it with force.

Jungle Life

How dense are the forests that grow along the banks of the river? You can see how dense the forests are in the top picture on page 30. The trees are so tall and so thick with foliage and grow so close together that they seem to form a great, solid wall. Vines, heavy with foliage, reach from tree to tree and often completely cover the trunks of the trees. We peer into the dark forest on the nearest bank. It is such a strange and mysterious forest! It is so strange and mysterious that if goblins were suddenly to appear there we should not be surprised. If there were goblins anywhere in the world, this forest would be just the right place for them!

Here and there in the jungle are spots of gaily colored flowers—orange, red, purple, pink, yellow. They show bright against the dark green. And here in the stream are the great water lilies that we expected to see. They look beautiful against the dark leaves.

Parrots scream from the treetops. Now and then a flock of them flies right across the river near our boat. Their gay colors

©William LaVarre from Gendreau

Sometimes our boat travels near the shore of the river. Then we get a good view of the jungle.

flash in the sun. They are as wild as the jungle itself, so we do not expect them to say, "Polly wants a cracker!" It would be funny, we think, if all of them should scream for a cracker at once. There are other birds, too, hundreds of them. Most of them have gorgeous coloring. They are odd-looking creatures and make very queer sounds. They don't really sing as our birds at home sing.

Butterflies and moths, larger than any we have ever seen, flit through the jungle and over the boat. Some of them alight near us. All the colors of the rainbow seem to glow in their wings.

"Why are there so many birds and butterflies and no animals?" we ask. We have watched closely, yet we have not caught sight of an animal. A passenger who has been up the Amazon before answers our question. "There are animals in the jungle," he tells us. "You haven't seen them because the foliage of the jungle is so thick." Then he tells us that most of the animals stay in the trees much of the time. Only animals that can climb trees, he explains, are fitted to live in the jungle.

Why is that? we wonder. It is because so little sunlight reaches the ground that there is scarcely any grass in the jungle. Animals that eat only grass would not be able to live here. If there are no grass-eating animals, there is nothing to attract flesh-eating animals, such as the lion or the tiger.

"You are sure that there really are animals?" we ask as we peer into the jungle again. "Yes," the passenger says, "there are many, many animals, strange animals. If you go into the jungle, you will see them."

We content ourselves with watching the alligators that swim in the river. They look like logs in the water, for we can see only their backs as they go swimming along. Now and then one crawls out of the water to sun himself on the bank of the stream. You can see one of them in the picture below.

The alligator likes to stretch out along the edge of the river where he can take a nap in the sun.

H. Armstrong Roberts

Above the Delta

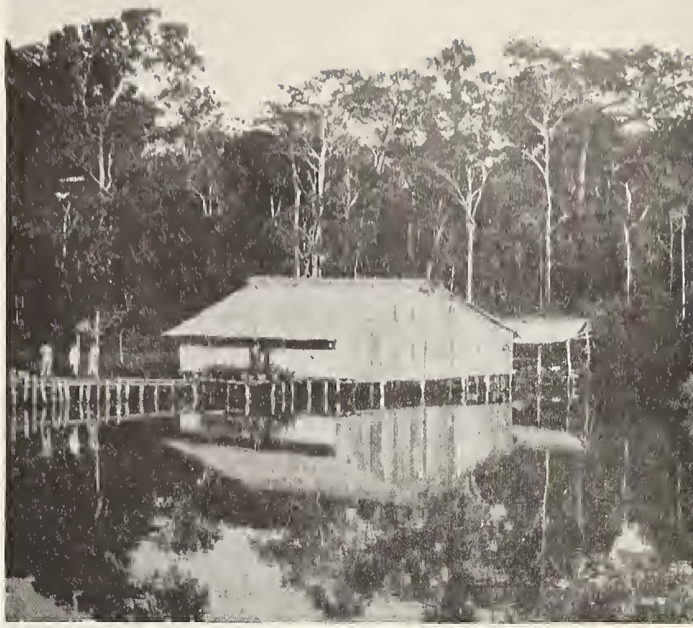
By and by we come to the part of the river above the great delta. The river grows wider and wider, and soon we cannot see across it. The sun is hot overhead. At noon it is so hot that we dare not stand in the sunshine without our hats. At noon the sun is so straight overhead that we have scarcely any shadows at all. The boat makes scarcely a shadow. In fact, there are very few noonday shadows in this land along the Amazon. Suddenly we think of the wide-spreading trees at home and of their pleasant and comfortable shade.

In the late afternoon our boat stops at a little clearing in the jungle, and the whistle blows several times. Has something gone wrong? No, nothing at all has gone wrong. We are stopping for fuel. Our boat burns wood, we are told. There is no coal in the Amazon Valley, and no one can bring it here without spending great sums of money. There is plenty of wood, so wood is the fuel used. Since the boat cannot carry enough wood to make this long journey, it must stop along the way to take on supplies.

Now we see some men coming down to the shore toward the boat. They are Indians, but they are not like the Indians that we have seen in our own country. They help tie the boat to some trees near the edge of the river. A plank is thrown down between the boat and the shore, and the Indians begin to carry wood onto the boat.

Once more our boat goes puffing up the wide river. Very soon we come to a strange kind of jungle home. A house built on stilts! We can hardly believe our eyes when we see a house built on stilts. Yet we can understand that such a house is a good kind to live in during a rainy season.

Soon we come to another kind of home built over the water. It looks much like the one shown in the picture above. The Indians have no need to clear the growth of the jungle from a house built over the water. It is hard to believe that plants grow so fast in the Amazon Valley, yet we know that they do.

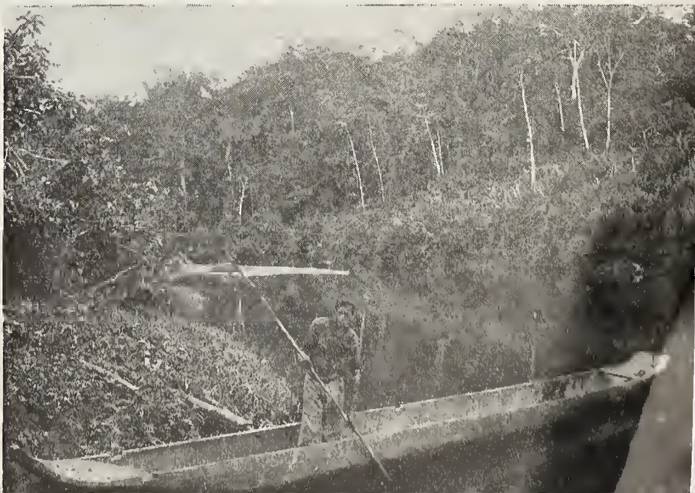


Century Photos

Homes like this one have more open space around and above them than homes built in the jungle.

The Indians go up and down the river in dugout canoes. These are long and narrow, like the one in the picture below. Every once in a while our boat meets or passes such a canoe, or several of them. Once one of them comes so close to our boat that we can look down into it. It is made from the log of a tree. The log is shaped at the ends and hollowed out

The Indians do not have many tools to work with, but they can make a dugout canoe from a large log.



inside. This work is done by hand and with crude tools, yet the canoes are very well made. Some dugouts are so large that ten or twelve people, two or three dogs, and several parrots can be carried comfortably in them. The Indian in the right-hand picture on page 3 has several pet parrots riding on poles at the end of his canoe.

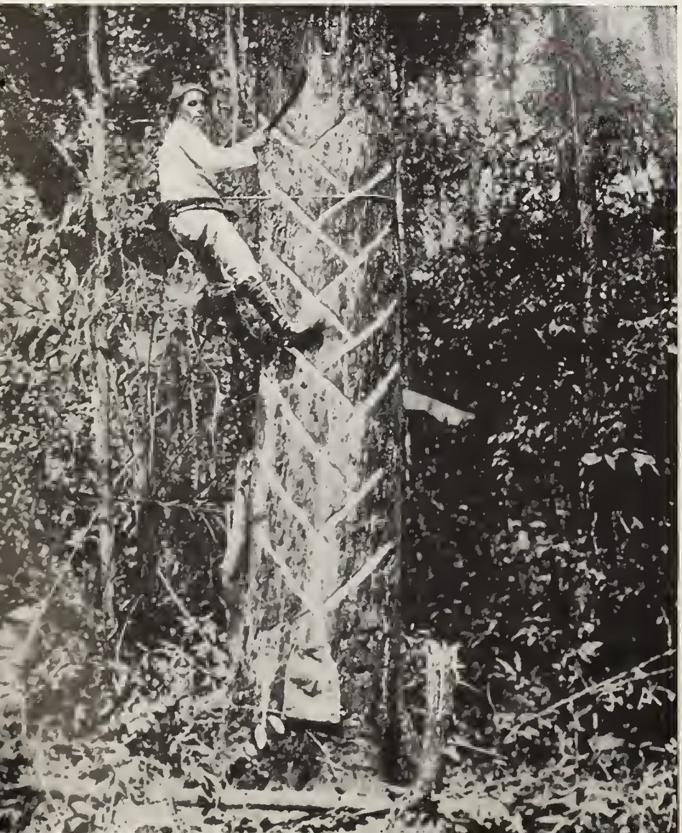
A Visit to a Rubber Camp

Now we are on our way again up the Amazon. We have spent the night on the boat, and not too comfortably. Even at night the air is hot and moist.

Very soon after sunrise our boat lands again to take on more wood. This time we see, not far from the wood, great balls of raw rubber. They will be loaded on a boat and will be taken back to the city of Belém. We look curiously at the black balls of rubber, for it is the first raw rubber we have ever seen.

The man cuts the gashes in the rubber tree so that they will carry the latex down to the bag.

Ewing Galloway



Where does the rubber come from? We know better than to think that it grows in balls on the trees, but we do not know how it grows. The pilot offers to take us a little way into the jungle to show us some rubber trees. He calls to an Indian near the bank of the river to bring his dugout canoe.

Away we go up the river and into a tributary that flows into the Amazon. Soon we leave the canoe and follow the Indian and the pilot up a narrow path and into the jungle. The path winds around from one rubber tree to another.

Gashes have been cut in the trunks of the trees, and from each gash a milky fluid, called *latex*, oozes out slowly. The latex looks something like the milk that oozes out of a milkweed stem when it is broken or crushed. Rubber is made from this latex. The man in the picture below is cutting gashes on the tree. Notice his big, oddly shaped knife. The lower gashes were cut first and the latex has oozed out from them. The man has climbed high up on the trunk in order to make more gashes so that more latex will flow out. This is called tapping the rubber tree. Cups or bags are hung under the gashes in the trees to catch every drop. Indians carrying buckets go from tree to tree collecting the latex and emptying it into the buckets.

How is this latex changed into rubber? One of the Indians will show us. He leads us into a small hut made of palm leaves, such as you see in the picture on page 33. A fire is burning inside the hut. The Indian pours a cupful of latex slowly over the end of a flat piece of wood and holds it over the fire until it dries and blackens and hardens. He pours a cupful of latex over the stick again and holds it over the fire. Again and again he does this. He will keep on doing it until he has a ball of raw or crude rubber as large as those we saw on the shore. Much more work has to be done before the rubber can be made into automobile tires or overshoes.

It is hot in the hut, so hot that sweat drops from our foreheads and runs into our eyes. The smoke makes our eyes burn, and the smell from the latex is very unpleasant. Suddenly we understand that hours and hours of hard work have to be spent in making the rubber we use. In fact, much work has to be done in making all the things we use. We decide that we shall never again be careless with anything.

James Sawders

This man is making a ball of raw rubber from the latex he has gathered. The hut is hot and smoky.

Brazil Nuts

We are glad to go back to our boat and go on with our journey. There is not much to see now, and we grow a little tired. We are glad when we stop at the shore again, after a time, to take on great baskets of nuts. The Indians have brought them down one of the tributaries of the Amazon. The nuts are Brazil nuts and we think, "Here is something we know about."

But we find that there is something new to learn about Brazil nuts, too. We haven't known up to now that these nuts grow, many of them packed closely together, in a hard outer shell shaped like a ball. The ball must be chopped open with a sharp blow from a knife, and the nuts must be pushed out. We have often wondered why Brazil nuts are so queerly shaped. Now we know it is because they have grown fitted together within the outer shell.

About Weather and Climate

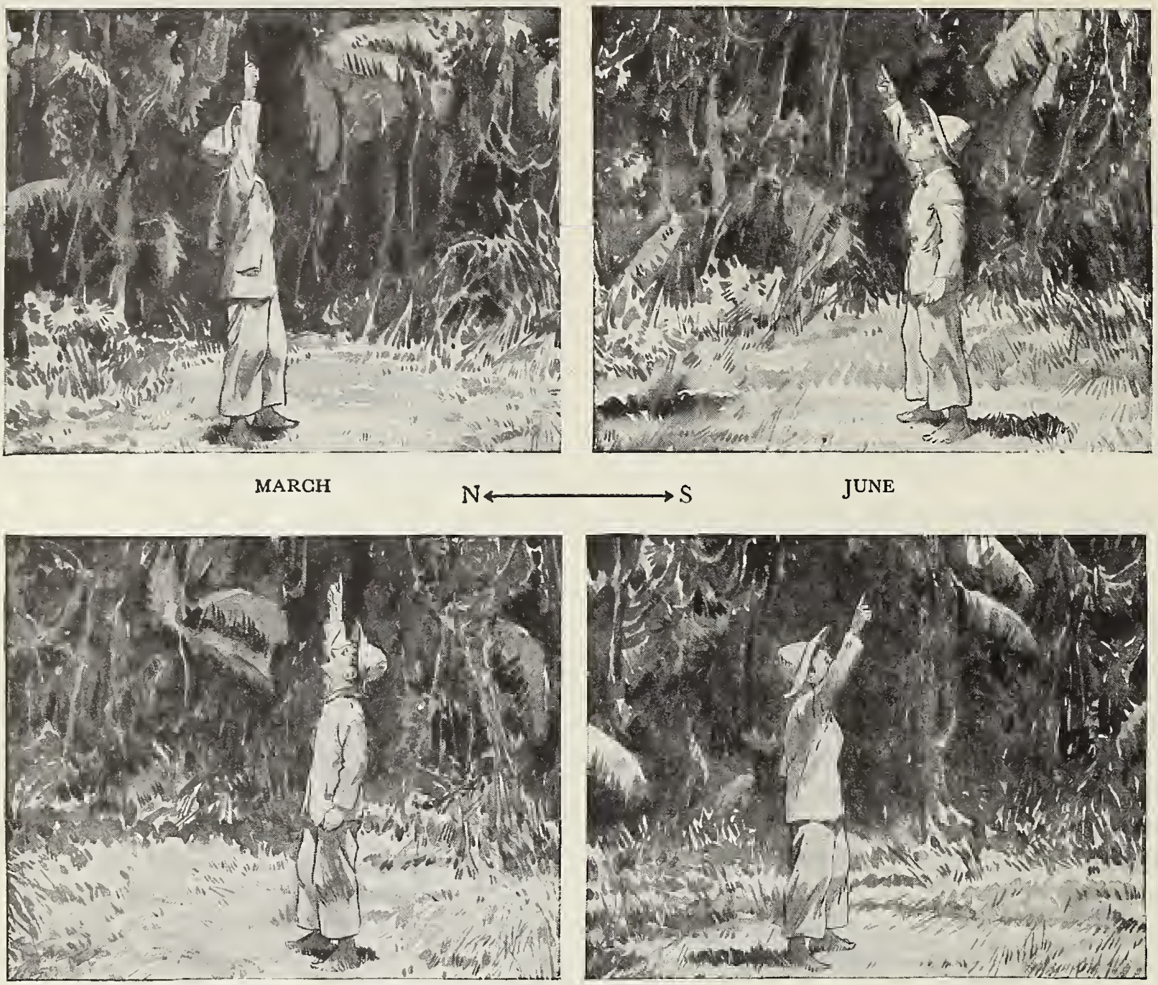
On and on we go up the Amazon. If only it were not so hot! How do the Indians stand the heat? Is it so hot all the time? Let's rest in our hammocks for a while and talk about climate.

You have often heard people talk about the *weather*. By that they mean the kind of day it is. If it is clear, cool, and pleasant, they say the weather is good. If it is very cold or very hot, if it is windy, rainy, or snowy, they may say the weather is bad or unpleasant. Rain, snow, heat, cold, wind, and sunshine all help to make up the weather.

There is another word people use when they talk about heat, cold, rain, wind, and sunshine. The word is *climate*. Climate means more than weather. It means the kinds of weather a place has all year and every year. You know, of course, that one year is very much like another in any one place. There is a little difference, but usually there is about the same amount of rain each year. The sun shines about the same number of days in one year, and in the next year, and in the year after that.

When people talk about weather, they mean the kind of day it is. When they talk about climate, they mean the kind of weather there is day after day and year after year.

There is no winter along the Amazon River, but the weather is not the same all the year round. There is a season of very heavy rainfall when the rain comes down in torrents every day. Then there is a season in which less rain falls. The rainy season lasts from January to June.



MARCH JUNE

SEPTEMBER DECEMBER

In the Amazon Valley the noonday sun is straight overhead in March and September. It is toward the north in June and toward the south in December. Notice the boy's shadow in the picture for each of the four months.

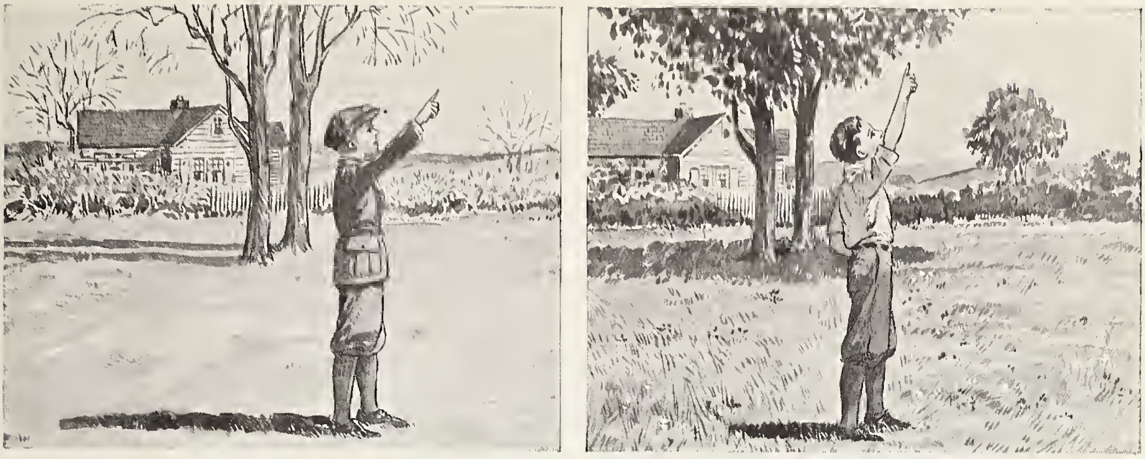
When does the season with less rainfall begin? When does it end?

You have already noticed that along the Amazon River the noonday sun is almost straight overhead. From March to September the noonday sun is a little to the north of straight overhead. From September to March it is a little south of straight overhead. The pictures on this page will help you understand the position of the sun in relation to the earth. They will help you see that, as the earth changes its position, the sun shines straight overhead. Or it shines north or south of straight overhead.

The higher the noonday sun, the warmer the weather. At your own home summer is warmer than winter because the sun is higher in the sky in summer than in winter. The boy in the pictures on page 35 shows you how you would point to the noonday sun at different times of the year at New York.

SOMETHING TO THINK ABOUT

We are making our journey into the Amazon Valley after a rainy season. At what time or times of the year might we be making this journey? Give reasons for your answer.



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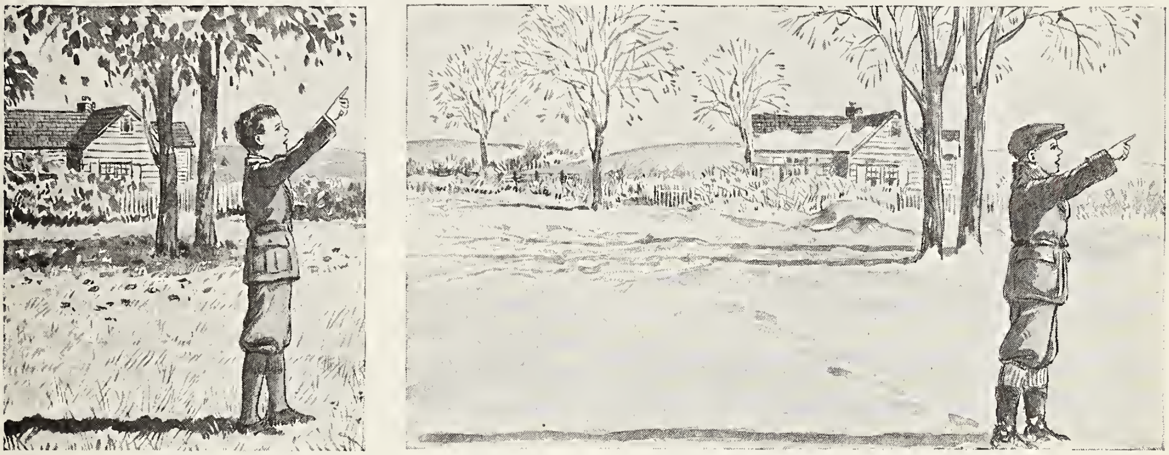


SEPTEMBER

DECEMBER

Compare these pictures with those on page 34. The boy is pointing to the noonday sun as a boy might do in Halifax. Notice where the noonday sun is in each picture. Notice also the length of the shadows.

MAKING THE GLOBE TELL A STORY

On your globe find a circle marked "Equator." Follow it all the way around the globe. Notice the continents through which it passes. There is no such circle marked on the earth. It is only an imaginary circle. If the circle could be marked on the earth, it would extend all the way around the earth halfway between the North Pole and the South Pole. The sun always shines on the equator.

Let us again turn a flashlight or an electric bulb on the globe, so that it shines directly on the equator. Notice that the light is less bright on the other parts of the globe. These other parts get the slanting light from your bulb. Now think of the sun as it shines on the earth. The equator gets the straight light, other parts get the slanting light.

Since the sun shines nearly straight on the equator, the lands near the equator are very hot. The hot lands extend for many hundreds of miles both north and south of the equator. The more direct the rays of the sun, the hotter the climate. As we go away from the equator, either north or south, the sun's rays are less hot because they gradually become slanting. The more slanting the rays of the sun, the cooler the climate. Do you suppose there are any parts of the world on which the sun's rays are always slanting? If there are, what kind of climate do such parts have?

The equator divides the globe into two equal parts. The imaginary equator divides the world into two equal parts. Do you see that the words "equator" and "equal" are much alike? Now think of this interesting fact: When we are having winter in our part of the world, far north of the equator, the people far south of the equator are having summer. Remember that on the equator and near the equator there is no winter.

Why does much rain fall in the Amazon land? Do all the countries near the equator have so much rain? Why is it cooler in the mountains? These are some of the questions which will be answered for you as you go on studying geography.

UP THE RIO NEGRO

One day our boat leaves the Amazon and turns into a large tributary. We soon see that the water of this tributary is not yellowish brown like that of the Amazon. It is black. Can this be the Rio Negro? Yes, it is. How did we know? If you have forgotten, turn back to page 29 and read about it again.

Manaus, City of the Jungle

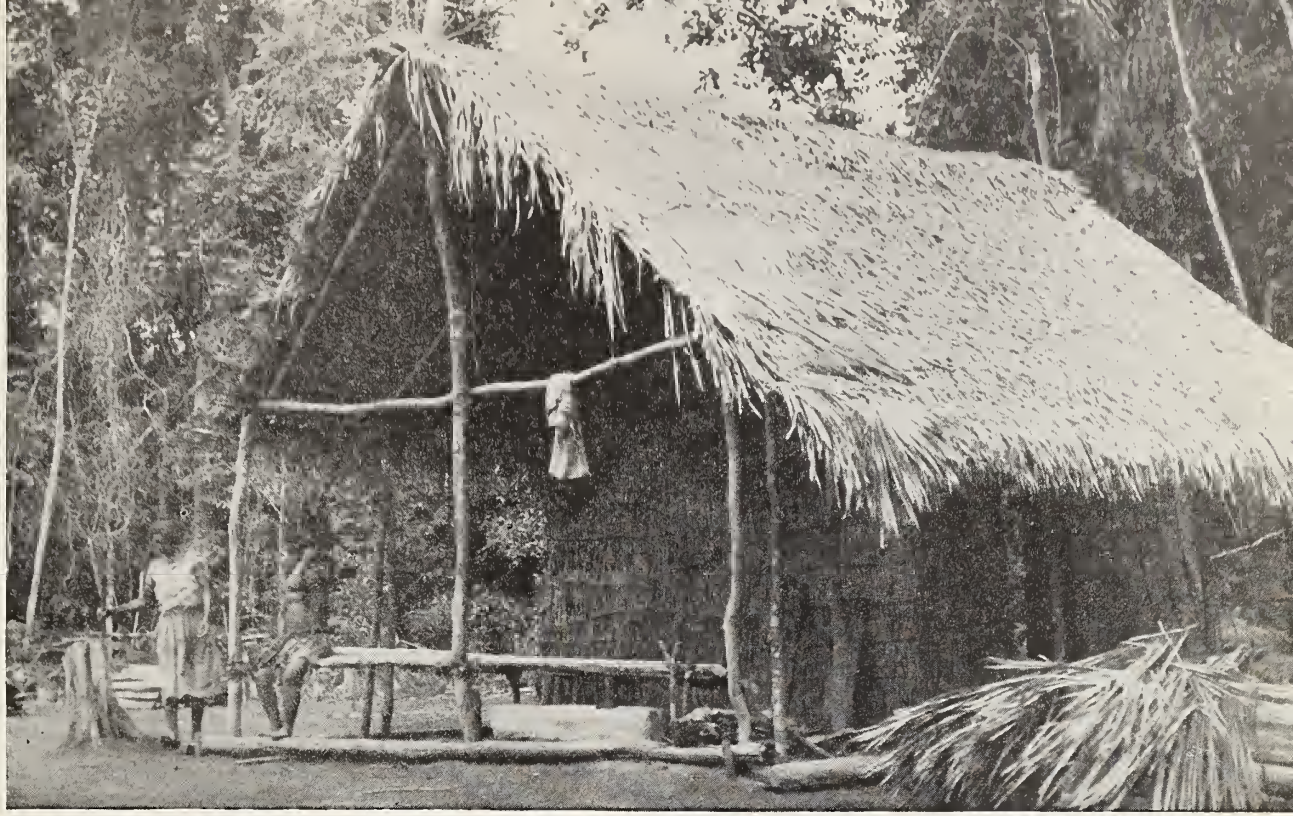
We sail up this river only a few miles and come to the city of Manaus, which you see in the picture below. In some ways Manaus, like Belém, reminds us of the cities at home. The buildings are large and handsome and lighted by electricity. The streets are well paved. Automobiles run proudly along, their hoods shining brightly in the heat of the sun.

Our hotel is up to date and comfortable. We hire a car and drive through the streets, past the factories where oil is made from Brazil nuts. We drive past restaurants, shops, and movies where Mickey Mouse appears on the screen. Most of the people we see are fashionably dressed. They know what is going on in the world, for they have radios and newspapers. All this seems like home.

After a while someone asks, "Where are the railroad yards?" Someone says, "We haven't seen a train since we came here." We are told that there are no

We should hardly guess by looking at this picture of a street in Manaus that the city is in a jungle.

Weimer from Three Lions



Severin from Three Lions

José and his family live in a house like the one above. The roof is so steep that the rain runs off quickly. There is no need for a stove or fireplace in this house, because José lives in a land that is hot all the year.

trains. The people who come to this city come as we came, by boat. Or they fly here in airplanes. Or they come as the Indians come, in dugout canoes.

It has never been possible to build railroads in the land of the Amazon. It has never been possible to build good highways. Why? Because the rains come so hard and so often that the land never gets really dry. The land is so low that the water does not run off quickly. It stands in the swamps, oozy and muddy swamps. Plants grow almost as fast as they are cut down. They grow almost as fast as the beanstalk in the story of "Jack and the Beanstalk." Railroads and highways cannot be built in such a land.

Visiting an Indian Village

Now we are going to visit an Indian village. We have found a guide who will take us to his own village home, up the Rio Negro. José is his name and he speaks our language, as well as his own.

We begin our journey in a dugout canoe, working our way up the Rio Negro and finally turning into a small tributary. José pulls the canoe to the shore after a time, and we get out. "Come," he says. We follow him along a narrow path, and there, just ahead of us, is the village.

José's home is not large, but it is much larger than some of the Indian homes along the Amazon. It is built like the house in the picture above. The sides of his house are made of palm leaves woven together. The roof is also made of palm leaves, laid much like shingles, and is very steep so as to keep out the rain. The house has only one room. Several families live here, each family having its own special part of the room. Hanging against the sides of the house are hammocks which are used as beds.

Ewing Galloway

Mangoes are larger than apples. José eats them raw or cooked, and also eats roasted mango seeds.

José calls to his mother and she comes to meet us. Her voice is kind as she speaks to us, but we cannot understand what she says. By and by she brings a large kettle of stew and sets it down near us. Near the kettle she places some pieces of bread which look like pancakes. Then she motions to us to sit down.

We all sit around the kettle in a circle. Since we are not sure just what to do, we watch José and his mother and do as they do. We break off some bread and dip it into the stew. Then we dip into the kettle with our fingers and get a piece of meat, which is good. José tells us that it is capybara meat. When the stew is eaten, José's mother brings in some fruit. We learn that we must either eat all the fruit or take it with us. It is impolite to leave anything. Among the fruits she brings us are mangoes, which you can see in the picture above. They have a peculiar sweetish flavor and we are not sure at all that we like them. An apple or a pear would taste much better to us. But there are no apples or pears in this valley, so we eat the mangoes as politely as we can.

We ask José about the bread, and he says it is manioc bread and tells us how it is made. The manioc plant has roots something like sweet potatoes. After the soil is washed off, the roots are grated on sharp little pieces of stone which are fastened to a board. José's mother has no grater such as we know at home. The grated manioc is put into a bag made of palm leaves and weighted with stones. The stones press out the juice, which must be removed before the manioc is ready for baking.

A fire is made on the ground and large stones are laid over it. Thin layers of the dried grated manioc are spread on the stones and baked just as a pancake is baked.

Some of the manioc is made into a coarse brown meal. This is very convenient to have on hand when someone in the family is to take a long journey. In this hot wet land most foods spoil very quickly, but manioc meal will keep a long time. It may be eaten dry or mixed with water and baked.

We ask what the manioc plant looks like. José takes us into the garden and shows us some manioc plants like those in the first picture on page 39. They have thin, odd-looking stems, about four feet high, and big, spreading leaves. In certain parts of the world these plants are called cassava. Tapioca, which we sometimes use, comes from such plants. We could get along without tapioca, but the Indians of the Amazon would not get along so well without manioc. The land is too hot and wet for wheat to grow well, and they raise only a little corn.

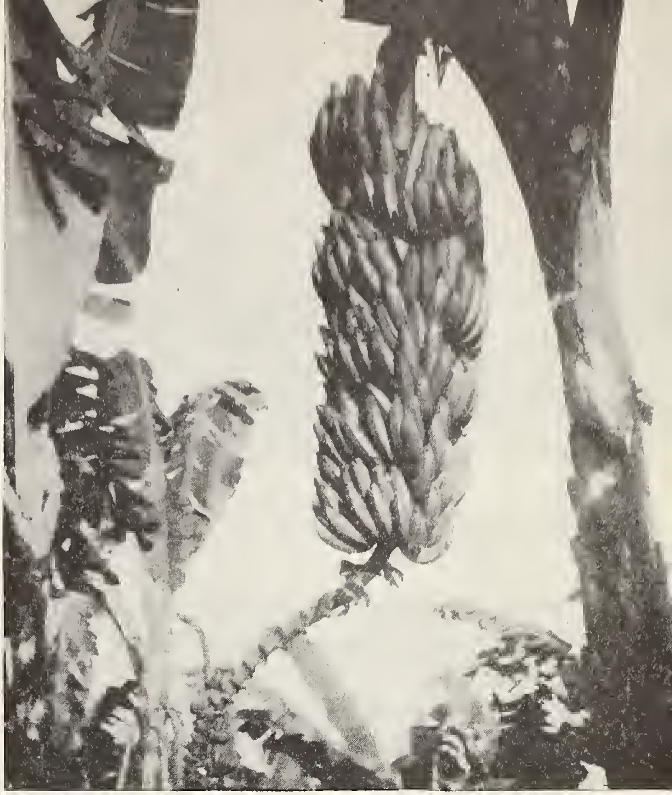
Other plants in the garden interest us, too. There are bananas, which grow near the tops of large plants as tall as

Ewing Galloway

José likes to eat manioc bread. His mother makes coarse meal from the large roots of the manioc plant.

trees. We look at the great bunches curiously and see that the bananas grow upward! At home, in the stores, we always see bananas in bunches hanging down. Near the top of the picture above, you can see the thick stem of the banana bunch. The slender part hanging down from the bunch is a long, dangling blossom. Some of the bananas are yellow and ripe, and some are green. Growing close by the bananas are pineapples. We stop to examine them and see that they are like the one in the picture at the right. In another part of the garden is corn, but we do not stop to examine that. It is almost exactly like our corn at home.

Here are some plants that look like corn but have more leaves and no ears at all. José smiles broadly when we ask about these. He cuts off a stalk and asks us to taste it. It is sweet, like sugar. This plant is sugar cane. Indians use the sweet juice of the cane in several



Ewing Galloway

This picture is not upside down. It shows bananas as they grow and hang in a bunch on the plant.

Pineapples grow near José's home also. They grow on plants that are about two or three feet high.

Ewing Galloway

Ewing Galloway

We can remember the tapir by his long nose. He lives near a river and feeds on roots and grass.

ways. Sometimes, too, they boil the juice and make a coarse kind of sugar, brown and strong.

By this time we have grown tired and sleepy in the heat of the sun. José leads us back to the house and we lie down in our hammocks. The sun goes down. It seems to go down all at once. At home we are used to long twilights, but here darkness comes quickly. In this land the sun sets at about six o'clock in the evening all the year round, José tells us. And the sun rises at six o'clock in the morning all the year round.

"Early to bed and early to rise" must be the way of the Amazon Indians. Unless they go hunting or sit telling stories, there is nothing for them to do except sleep or rest after the sun has set.

Animals of the Jungle

We are up early in the morning, for we are going with José on a hunting trip. We start down a path that leads to the river and deeper and deeper into the jungle. We try to walk as easily as José does, but we cannot. We stumble along through the thick growth, now slipping, now falling, now getting caught by the low branches of trees. José seems to glide down the path, holding his spear and his bow and arrow so they will not get caught in the vines and the branches. Overhead, monkeys swing from branch to branch among the trees, chattering and scolding. Birds scream wildly. Insects hum through the air. We are deep in the jungle at last.

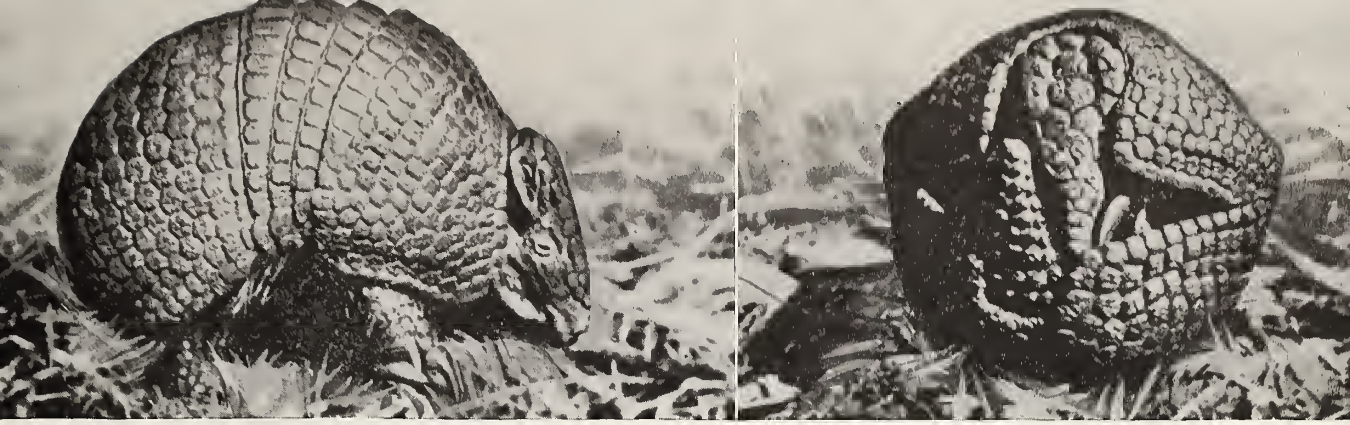
Suddenly José stops, raises his bow, and shoots. We cannot see anything through the thick trees, but José must have seen something. He runs down to the edge of the river and calls to us sharply, "Come!" He has killed a tapir, a strange-looking animal with a short, thick body and a head and snout much like those of a pig. You can see a tapir in the picture at the left.

José is proud of himself, for the flesh of the tapir will provide his people with food for a week. We are pleased, for now José will not need to hunt any more today. He can point out for us the strange animals of the jungle.

Very soon José points to an odd creature hanging upside down from the limb of a tree. It looks as if it were sleeping. José says that it is a sloth, and that very likely it is sleeping. One of these sleepy creatures is shown in the picture below. The sloth sleeps in the daytime and eats at night, feeding on leaves and tender young buds. Whenever it moves about, day or night, it moves as if in a dream.

The sloth's home is in a tree. He moves about and even sleeps in this odd upside-down position.

Fisher from Ewing Galloway



The armadillo does not need to fight or run away from his enemies. He just rolls himself into a hard ball.

Did you ever hear of the word *slothful*, meaning "lazy"? Do you think there may be some connection between that word and this strange animal?

All at once José stops and points to a little animal called an armadillo. It is covered with a hard shell-like substance, as you can see in the picture above. José turns it over with his long spear, gently, so as to do it no harm, and sends it rolling down the path! It can draw itself inside its hard shell, as the right-hand picture above shows, and then it cannot be hurt by its enemies. But we are not enemies. We want only to look at the odd little armadillo, not to hurt it.

A young anteater rides past on the back of its mother. The mother looks at us as curiously as we look at her, then turns and carries her baby into the forest. The mother anteater looks like the one you see in the picture at the right. José says she and her children and the rest of the anteater family live on ants, day after day, all their lives. And, since there are many ants in the jungle, they must live pretty well.

Of all the animals we have seen, the monkeys amuse us the most. They are so quick, so silent in their movements as they swing from branch to branch, from vine to vine, from tree to tree. Sometimes they actually seem to fly through the air. They chatter, chatter, chatter.

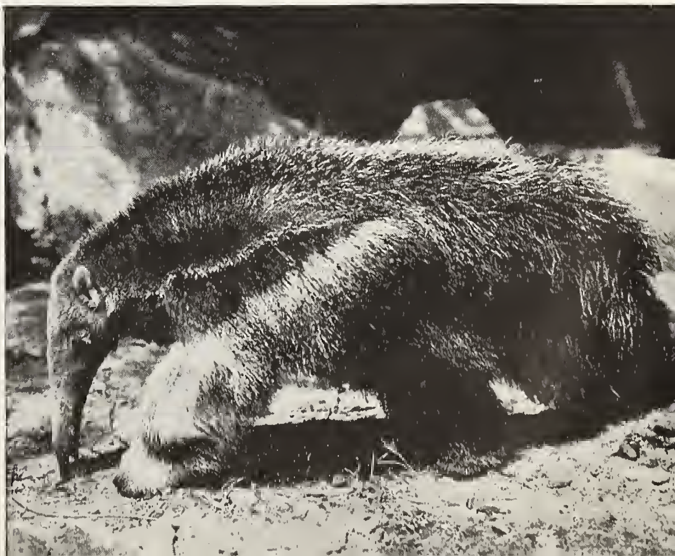
"Are such monkeys as these the kind we see led around by an organ-grinder?" we ask. José tells us they are.

Even while he is answering our questions, José stops suddenly in the path. He motions to us to keep quiet. "Jaguar," he whispers, and points to a low-hanging limb of a tree. There, stretched out, lies a large yellow animal, spotted with black. It has a face like a cat's. It lies very still, moving only the tip of its tail. We follow José very quietly down the path away from the jaguar. José keeps his weapons ready to use in case he should need them.

When we are safely out of reach of the creature, José gives a long sigh. "Whew!" he whistles. "Those cats are

The anteater digs into anthills with his long, thin snout, licking up ants with his long, sticky tongue.

New York Zoological Society



bad. They spring quickly, like that! See? I do not harm him if he does not try to harm me." We ask what jaguars eat. José tells us they eat turtles that come ashore to lay eggs. They eat fish, too, and are skillful at catching them. Jaguars are good hunters. They attack the deer, capybara, tapir, and smaller animals, but do not often attack man. "You should hear them at night!" says José. "Their loud roars would make you shake in your boots."

Soon José leads us to the canoe and we travel back down the stream toward the city of Manaus. The canoe is carried swiftly along, for we are going downstream. José takes us all the way back to our hotel and we say many thanks. He has been a fine guide and a pleasant companion as well.

ARE YOU GOOD AT MAKING PICTURES?

Plan now to make a wall picture of some of the scenes you have been reading about. Get large sheets of paper or rolls of old wallpaper. Fasten them securely to the wall in a suitable part of your schoolroom.

Plan a scene showing some of the places you have visited. The scene should show the great jungle, the Amazon River, and several Indian homes. Plan carefully before you start drawing.

When you have decided what to show, make the drawings in bright colors. You will want to use green for the jungle plants, of course. *Wings around South America* is a good book to help you with such pictures. It was written by Alice Dalgliesh.

If you have modeling clay at your school, make models of some of the animals that you have read about.

GOOD TRAVELERS STUDY THE GLOBE

Now, as we rest in our hotel at Manaus, we talk of the strange sights we have seen, and compare this land with our own. We wonder if there are any other lands as hot and as wet as the Amazon Valley.

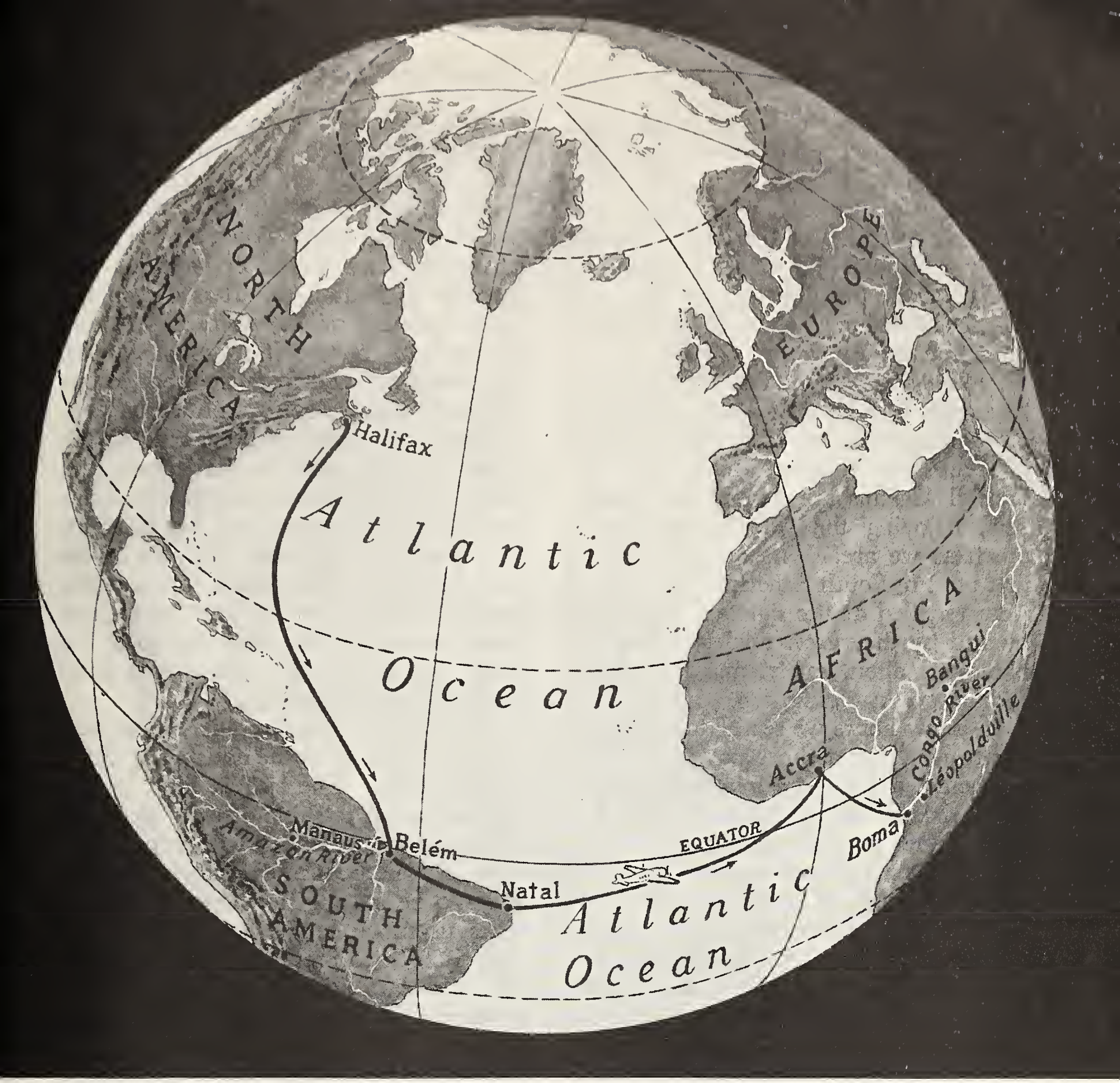
There must be, for the equator, which passes through the Amazon Valley, passes all around the earth. If only we had a globe so that we could see what those lands are! We ask if there is a globe at the hotel, and are told that there is. We ask if we may borrow it, and we may.

Now we trace the equator all the way around the globe, starting at Manaus and moving eastward. We follow the equator through South America, across the Atlantic, and come to the continent of Africa. We trace the equator across Africa, and across thousands and thousands of miles of ocean waters. What oceans do we cross? We see that the equator crosses only two continents, South America and Africa. It crosses a number of islands, too. Now we have traced the equator all the way around the globe and are back at Manaus again.

Let's visit Africa at some place through which the equator passes. We learn that we can travel up the Congo River of Africa, starting the journey at Boma. Find the Congo River and Boma on the globe and on the map on the opposite page.

How shall we go from Manaus in South America to Boma in Africa? We inquire at the hotel, and are told that the best way is to go back to Belém. From Belém we go to Natal, a city at the eastern tip of South America. From Natal we go to Accra, a town in Africa. From Accra we go to Boma, and from there up the Congo River. Let's trace the whole trip on the globe and on the map also.

We can go back to Belém as we came, which would take four days. We should see many more interesting and beautiful things on the way back, for no one ever sees in one trip all the things that are to be seen. But the world is so large! There are other places that we should like to visit. So let's go back to Belém the quickest way possible—straight down the valley by airplane.



A picture of a globe showing where we have traveled and where we are going next on our trip.

AWAY TO THE CONGO

We board an airplane at Manaus. The plane is not very large compared to some which go flying over the world, but it is comfortable. There are seats on both sides in the inside of the plane, and fastened to each seat is a strong leather belt. Up in the cockpit sits the pilot. "Fasten your seat belts," he calls back to us. We quickly slip the belts around our waists and buckle them carefully. Now we shall be held safely even if the airplane turns sideways.

Travel by Airplane

Soon we are high above Manaus, and in a very short time we see the hot, steaming jungle beneath us. It seems more mysterious than ever. Here and there we see the broad Amazon winding its way through the valley and shining like silver in the light of the sun. We can clearly see now where the Rio Negro flows into the Amazon.

Arriving at Belém, we learn that we have only a short wait before taking another plane to Natal. This plane is much like the one that we have just left. Several Indians are among the passengers, enjoying the ride in the sky as much as we are. When airplanes were first used in South America, the Indians were terrified at the sight of them. But by and by they grew used to seeing the planes fly about safely, and now many Indians go sky-riding, too.

In a few hours we see Natal lying beneath us. After a short stay in the city, we board a great *transcontinental* plane. *Trans* means "across," so we know that such planes as this one fly over continents. They fly over oceans, too. Our plane is very large, really enormous. It has a kitchen, a dressing room, and six cabins, each one of which will comfortably seat four people. There is no dining room, for the meals are prepared in the kitchen and served in the cabins. Through an open door we can see into the cockpit and watch the crew of our transcontinental plane. The crew is made up of a pilot, a co-pilot, and a radio operator.

Now the motors are tuning up, whirring noisily. Like a bird our great plane rises into the air, gracefully, easily, and away we go out of the airport and over the wide blue Atlantic.

Over the ocean we go flying on! It would be very helpful, we think, if the equator were really marked on the earth's surface. But it isn't.

Travel by Boat and Train

In a little less than nine hours we have come all the way from Natal to Accra—hundreds and hundreds of miles. At the airport at Accra we climb out of the plane and hurry down to the shore where our boat should be waiting. But there is no boat here. It is out in the ocean about a mile from the shore and we must go out to it in small canoes. Gangways are laid from the boat to our canoes so that we can get on easily.

There are many other canoes in the ocean besides these we have come in. They are being filled with goods of different kinds which the boat has brought. The goods are let down the side of the boat, loaded into the canoes, and paddled back to the shore. Sometimes high waves upset the canoes, throwing the goods into the water. We can see why a good harbor is very important.

Our boat is small, so it keeps near the coast away from the dangerous waves of the ocean. The sun is high in the sky and seems to shine directly upon us. Waves of hot air loaded with vapor pour over us. The boat moves slowly, and we seem to be getting nowhere. Really, it takes us much longer to get to Boma than it took to cross the wide Atlantic. Just as we are thinking that the trip will never end, we see that the water of the ocean is brown, and we know that at last we are near the mouth of the Congo.

The Congo is very wide at its mouth, and the hills which enclose it are far, far away. Scattered through the mouth of the river are many small islands, showing the gray-green of the jungle.

There are no large steamships on the river, for big boats cannot sail on the Congo as they do on the Amazon. This is because the Congo Valley is not so flat as the Amazon. In some places, farther up the stream, are dangerous rapids over which no boat can pass. The rapids are caused by a steep slope of the land and by great rocks in the stream.

Still, we are not alone on the river, for there are many canoes paddled by natives. Some of the canoes are decorated with strange pictures. Some of the natives themselves are decorated with pictures, too. They are tattooed, which means that the pictures are made in their skins with dyes.

Boma is not much of a city, having only a few shops, a few homes in which white men live, and a great many native huts. Our boat cannot go beyond Boma, for near it are the first rapids of the Congo. The boat will go back down the river while we, after a rest, take a train for Léopoldville. Notice the location of Boma and Léopoldville on the map on page 43. Our train runs on a track between these two places.

Our railroad journey to Léopoldville is not very pleasant. The cars are of wood, not much like the great, heavy steel cars of our own country. They sway and swing as we go around curves, so that we can hardly walk through the aisles. The little engine goes puffing and steaming, sending out great clouds of black smoke which gets into our eyes and covers our hot faces with soot.

Yet this railroad, poor as it seems, is a wonderful thing for travelers in this land because it goes around the rapids. It cost a great deal of money and months of hard work. Many men lost their lives in its dangerous building.

After a rest at Léopoldville we are off on our journey again. The boat which is to take us farther up the Congo looks much like the one in the picture on this page. It is crowded with white passengers and their baggage, with chickens in coops, animals in cages, and native Negroes who do the work that has to be done on the boat.

The river is enclosed by high hills, as it was at the mouth. By and by the land grows flat, like meadows at home, and as we go on and on the jungle walls rise, thick and dark. Yet this jungle is not so thick as that of the Amazon, because the rains are not so heavy here as they are there. This land has more hills, so that the water runs off faster.

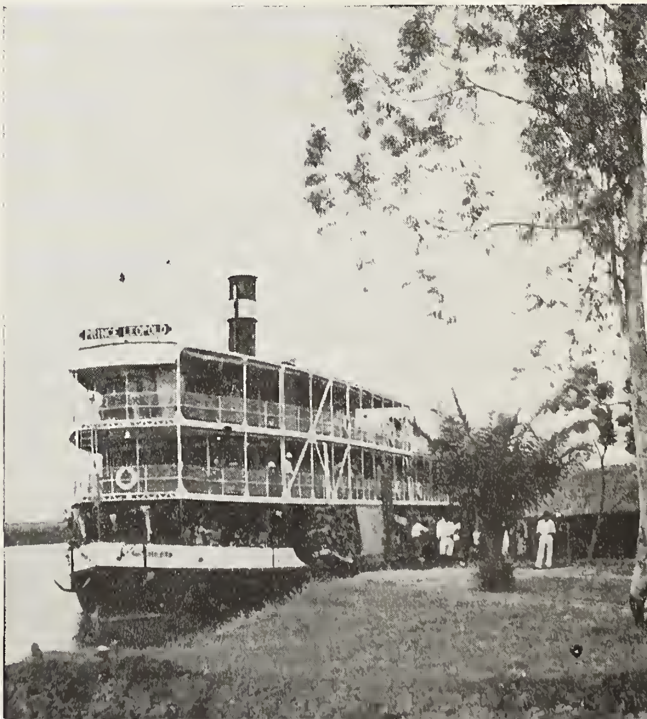
Where is the noonday sun here? It is almost directly overhead, just as it was along the Amazon. The boy in the pictures on page 46 shows the position of the sun. Let us turn back to page 34 and compare those pictures with these.

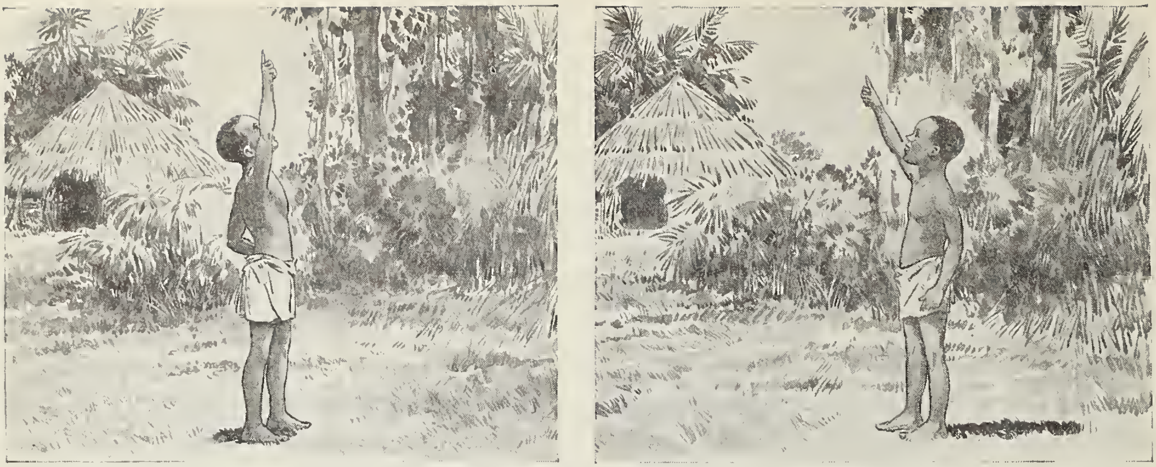
We steam slowly on through the day, and at night we draw up to a native village to take on food and wood. Then the shore comes alive with gay dark-skinned people, the Negroes, who sing as they work, as they rest, almost as they eat. Little naked babies wearing strings of bright beads sit happily astride the hips of their mothers, laughing and crowing. Older children run about playing games and shrieking with joy.

Here and there in the light from the boat we see white men in white suits standing on the bank. They are the

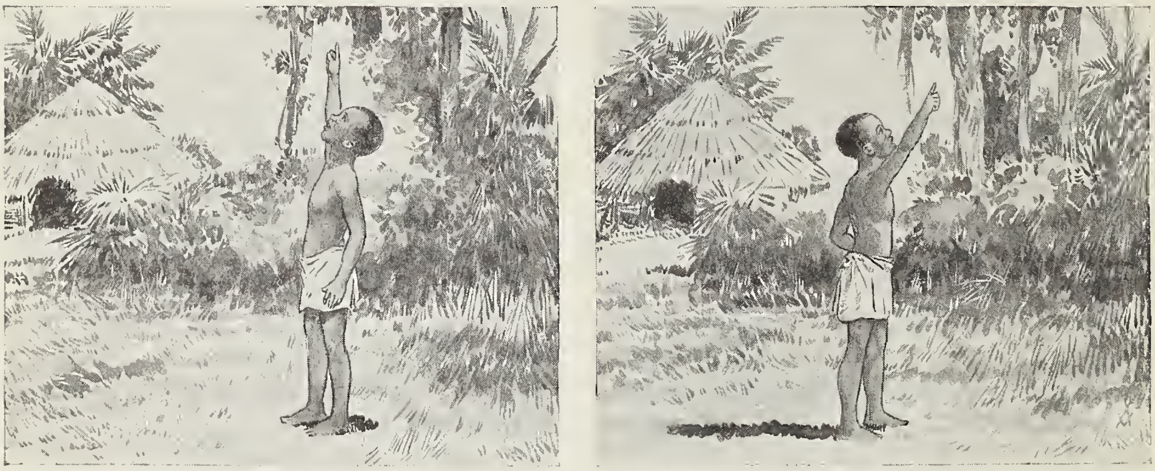
Our Congo steamer has three decks. It is built so it can travel even where the river is quite shallow.

Ewing Galloway





MARCH N ⟷ S JUNE



SEPTEMBER DECEMBER

A boy near the Congo pointing to the noonday sun. Compare these pictures with those on page 34. We see that the sun is in the same position over the Congo as it is over the Amazon at the same time of the year.

traders, the men who come to trade for the fruits of the jungle or to look after the rubber plantations. Why do they trade with the natives instead of buying from them? The natives have no use for money, but they have use for hatchets, guns, beads, and bright cloth. The white men have use for the crops of the jungle.

During the day we see white people and black people paddling up and down the Congo in dugout canoes. You will see some of them in the top picture on page 47. Many of the canoes, like the one which we saw at the mouth of the Congo, are strangely decorated. The Negroes who paddle the canoes sing queer songs and keep time to the singing with their paddles.

As our boat churns the waters of the Congo, we peer into the forest, hoping to see jungle animals other than the chattering monkeys. A white trader has told us that there are different kinds of monkeys living deep in the jungle, some of them much larger than those we have seen. The largest of these is the gorilla, a great hairy ape stronger than a man. The chimpanzee, too, lives deep in the jungle. It is easily tamed and will make a good pet if taken while young.

Three Lions

A whole family can travel in a dugout canoe. The houses are on higher land than any we saw on the Amazon.

Now and again where the river flows slowly we see a great hippopotamus. It feeds on the water grasses and plants, but sometimes it breaks into the gardens of the natives and feeds on their crops. This does not happen very often, however, for a hippopotamus has very short legs on which to carry its huge body, so that it does not travel very fast on land. On this page is a picture of a mother hippopotamus and her baby.

Crocodiles lie along the banks of the river, sunning themselves. They look like the alligators we saw on the banks of the Amazon, but they are not so good-natured. The crocodile would as soon eat us as not. Even native boys who swim the Congo are afraid of the "croc."

We would enjoy all these strange sights more if it were not so hot. The air all around us is hot and loaded with vapor. Even the nights are hot.

By and by we come to a tributary. We sail on and on up this stream and come at last to the town of Bangui. We can see on the map on page 43 that Bangui is a long way north of Léopoldville. Here our boat stops, for there are rapids in the river near the town. Before we go on with our journey, we shall visit a native village to see how the people live there. A white trader on shore tells us about Sako, a guide, who offers to lead us to the village where he lives.

A baby hippopotamus goes wading with its mother.

Chicago Daily News Photo

A Jungle Village

Sako explains that we will have to walk, for there is no other way to go deep into the forest. He brings several Negroes along with him to help carry our baggage. He leads the way and the others follow, one behind another, carrying the baggage on top of their heads.

First Sako leads us along a forest path. After a time this path widens into a broader road. We come to a clearing in the forest. The people of the village have cut down trees and bushes to clear the land for the fields and gardens. They have to clear new spots for gardens every now and then because the soil in the old gardens is not good any more, or is worn out.

Can soil be worn out? Yes, it is worn out when plants and trees have taken up all or nearly all the food it contains. Since the weather is warm, the natives of the Congo grow crops in their gardens all the year round. Because plants eat all the year round, they soon eat all the food in the soil. When crops grow poor, the natives leave their old gardens and fields and make new ones. Thus they move often; but, since they have little to move, this is not much of a problem.

Does all soil in the valley wear out? No, it wears out only where the crops and fruits are gathered often. Where plants are allowed to stay and decay on the ground, the soil grows richer.

Now Sako leads us on through the clearing and into his village, straight down a narrow road to his home. His village is much like the one in the picture below. The houses are built on both sides of the road, facing each other. The walls of the houses are made of wood, and the roofs, covered with palm leaves, are steep, so that they shed water quickly. A heavy Congo storm comes up just as we reach Sako's house. Lightning flashes, thunder rolls, and the rain comes pouring down. This is the rainy season and storms come every day. Often they are much worse than this one.

Sako's home does not seem very comfortable. It has only one room, which is used mainly to sleep in. People work,

All around the little village is the jungle. The people wear clothing brought in by the white traders.

Three Lions

play, and eat outside. There is no furniture to speak of, and the beds are not beds at all, as we know them. They are only poles fastened to the walls. In the middle of the room there is a fireplace where the cooking is done. Since there is no chimney, the inside of the house is blackened with smoke. Cooking pots and baskets hang on pegs along the walls, and some spears for hunting stand in one corner. Fishing nets are spread on the floor. Almost all these things are made by the natives.

Night comes on suddenly, as it does in the Amazon Valley. Fires are lighted in the clearing, and the natives seem to be very busy about something. All at once we hear a strange thumping, thumping sound as if drums were being beaten. Yet the sound is not like that of the drums that we know.

Sako explains that someone in a nearby village has had a good day at hunting, so there will be a dance to celebrate. He tells us that the thumping sounds come from the drums used to call in the friends. The drums are only hollow pieces of logs whose ends have been tightly covered with skins. Drum! Drum! Drum! The sound rolls along through the hot jungle air.

Natives from far and near will go to that village to dance to the drumming. They will whirl round and round and clap their hands, beating time to the strange music. The dance will go on all through the night. The children will fall asleep, and some of the mothers will drop out of the dance to look after their little ones. The old men will drop out by and by and tell stories by the light of the fire. But the strong young men and women will dance on and on.

Sako does not go to the dance but stays with us and helps to make ready our beds for the night. Although Sako thinks these are very good beds, we wonder how we can ever sleep on beds so hard. But we are so tired that we drop off to sleep in no time at all.

In the morning Sako takes us out to see the gardens and fields. They are much like those of the Amazon Valley, though much better cared for. The ground has been worked with a hoe, and most of the weeds have been pulled. The women and children do this work.

The gardens are not orderly as ours are at home. Manioc, corn, beans, and tomatoes are not planted in neat rows but in patches, higgledy-piggledy. We are delighted to see peanuts growing, and Sako tells us that they are a very important crop.

Now we see a crop that is even more important. At the edge of the garden are trees which give Sako's family something that is worth more than peanuts. These are oil palm trees. They look something like the palm trees we saw on the islands as we came through the Atlantic, yet they are different.

Near the top of each tree grows a big cluster of fruit. Each fruit is about the size of a date and, like the date, has a hard stone. But the pulp is not like that of the date, sweet and sticky. It is oily, almost pure palm oil. The Congo people use this oil much as we use butter, putting it on their manioc bread. Still, there is much more oil than they can use, so they trade with the white man in oil as well as in other crops. How do we use such oil? In many ways, the most important of which is the making of soap.

Near the oil palm trees are mango trees and banana trees. Not far away are great patches of pineapple. We can see that Sako's people are not likely to go hungry or to want for things which they can easily trade with the white man for the things they need.

The sun is too hot now for us to ask any more questions, and Sako is ready to lead us back to the river.

THE GEOGRAPHY WORKSHOP

The people whom you have been visiting in the Amazon and Congo valleys do not have any use for a globe such as you have in your schoolroom. They do not travel very far from their homes and do not use a globe in school.

You have much use for globe study because you will take many more imaginary trips. And when you are older you may take many real trips. How well have you remembered the facts you have studied?

KNOWING YOUR GLOBE

Name the continents through which the equator passes. Name the continents through which the equator does not pass.

Name the oceans through which the equator passes. Name the oceans through which the equator does not pass.

Show how you traveled from your home to the Amazon Valley; from Belém to the Congo Valley.

CAN YOU DO THIS?

If you have a sand table in your room, make in it a map of the Amazon River, showing some of its tributaries and the delta.

If you do not have a sand table, make the map in a suitable part of your schoolroom on the floor. Be sure to have your directions clearly in mind before you begin the map. Why is this important? Mark on your map the two cities you visited.

Make a similar map of the Congo, marking the places you visited. Be sure to put in the rapids of the Congo and show where the railroad goes around the rapids.

WHICH SENTENCES ARE RIGHT?

Some of the sentences below make statements that are not true. Find the sentences that do not make true statements. Rewrite them so that they tell what is true. Perhaps you will need to look back in your book to be sure that your sentences are right.

1. Rivers that empty their waters into a larger river are called tributaries of the larger river.
2. A place where steamships may land is called a harbor.
3. The higher the noonday sun is in the sky, the warmer the weather.
4. The sun is more directly overhead at your home than it is in the Amazon Valley.
5. Land built up at the mouth of the river to form strips of land between which the river flows is called a delta.
6. Rubber is made from latex, which is the milky fluid of the rubber tree.
7. When we are having winter, the people in the lands some distance south of the equator are having summer.
8. There are good roads and railroads in the land of the Amazon.
9. The Indians of the Amazon region could easily get along without manioc.
10. The jungle of the Congo is not so thick as the Amazon jungle because the rains are not so heavy.
11. A jungle is a sunshiny forest where people have pleasant homes, fine cities, and a comfortable life.

PICTURES

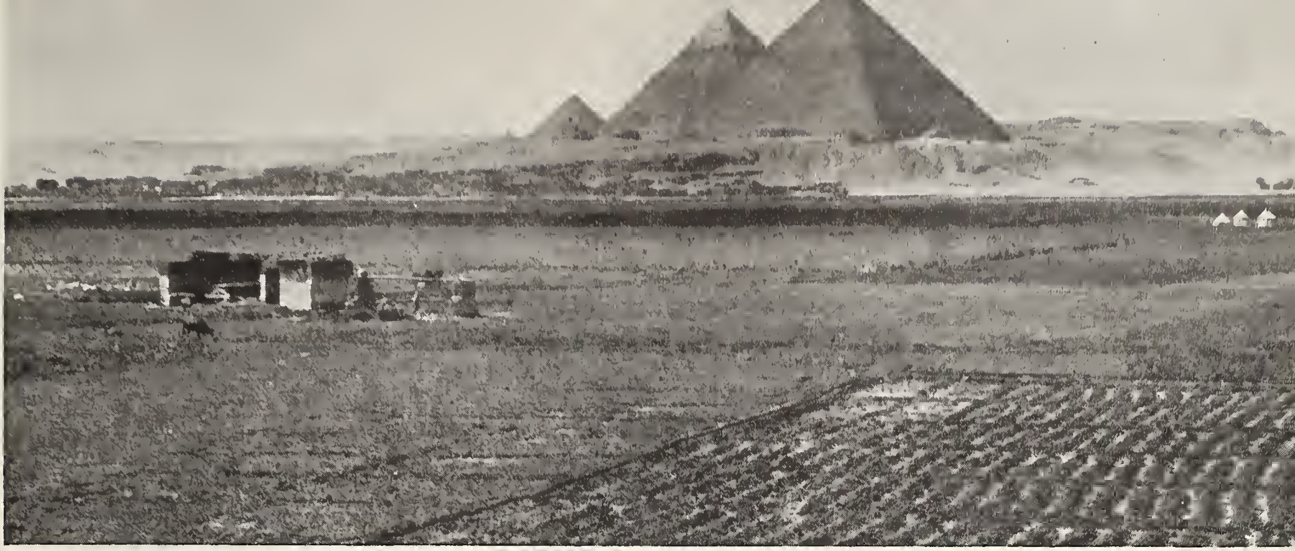
If you have finished your wall picture of scenes in the Amazon Valley, make a similar picture of scenes in the Congo Valley. If you have enough wall space, do not take the Amazon pictures down. Thus you may compare your work on the two pictures.

TRADING

Suppose you could go on a trading trip into the Congo Valley. What would you take with you to trade with the natives? Why do you think your choice is suitable? What did you see there that you would like to have? What would you trade for it?

BOOKS TO READ

Ask at your library for *Peter and Nancy in South America*, by M. H. Comfort. It will surely interest you. You will enjoy also *The Alo Man: Stories from the Congo*, by M. L. P. Chadwick and L. Lamprey.



Ewing Galloway

Farms of Egypt ready for water. No crops grow beyond the watered area. Great pyramids rise in the distance.

Living in Hot Dry Lands

THROUGH GRASS LANDS TO DESERTS

"Are all the lands near the equator as hot and as wet as those of the valleys of the Amazon and the Congo?" we asked Sako, our Negro guide, as we walked back from his village in the Congo. Sako grinned and shook his head. He pointed to the north and said the land is dry there, grinned again, and was silent. When we asked how far north, he shook his head. He said he knew nothing about other places except what he had heard the white traders tell.

Sako is eager to please. That evening he came to see us, bringing a white man who, he thought, could answer our questions. The white man is a Frenchman named Pierre le Grand. He was born in France, a country we shall visit some time, but he has lived in Africa for many years. He speaks good English, as well as French. And he also speaks the language of some of the natives of the Congo. We asked our question of him.

"North of here are dry lands," said Pierre. "Little rain falls, then no rain at all. So there are grass lands and then desert. Do you know what a desert is? It is a land so hot and dry or so cold and dry that little or nothing will grow there. There is adventure in grass lands and desert lands. If you like, I will take you there." Then Pierre told us that he owns two automobiles, and that he and another Frenchman often drive people into the grass lands as far as Lake Chad. Some of us who are French Canadians like to hear the people in this far-away land speak our language. When we had agreed to make the trip, Pierre took a map from his pocket and traced a road leading north to Lake Chad. We can follow the route on the map on page 52.

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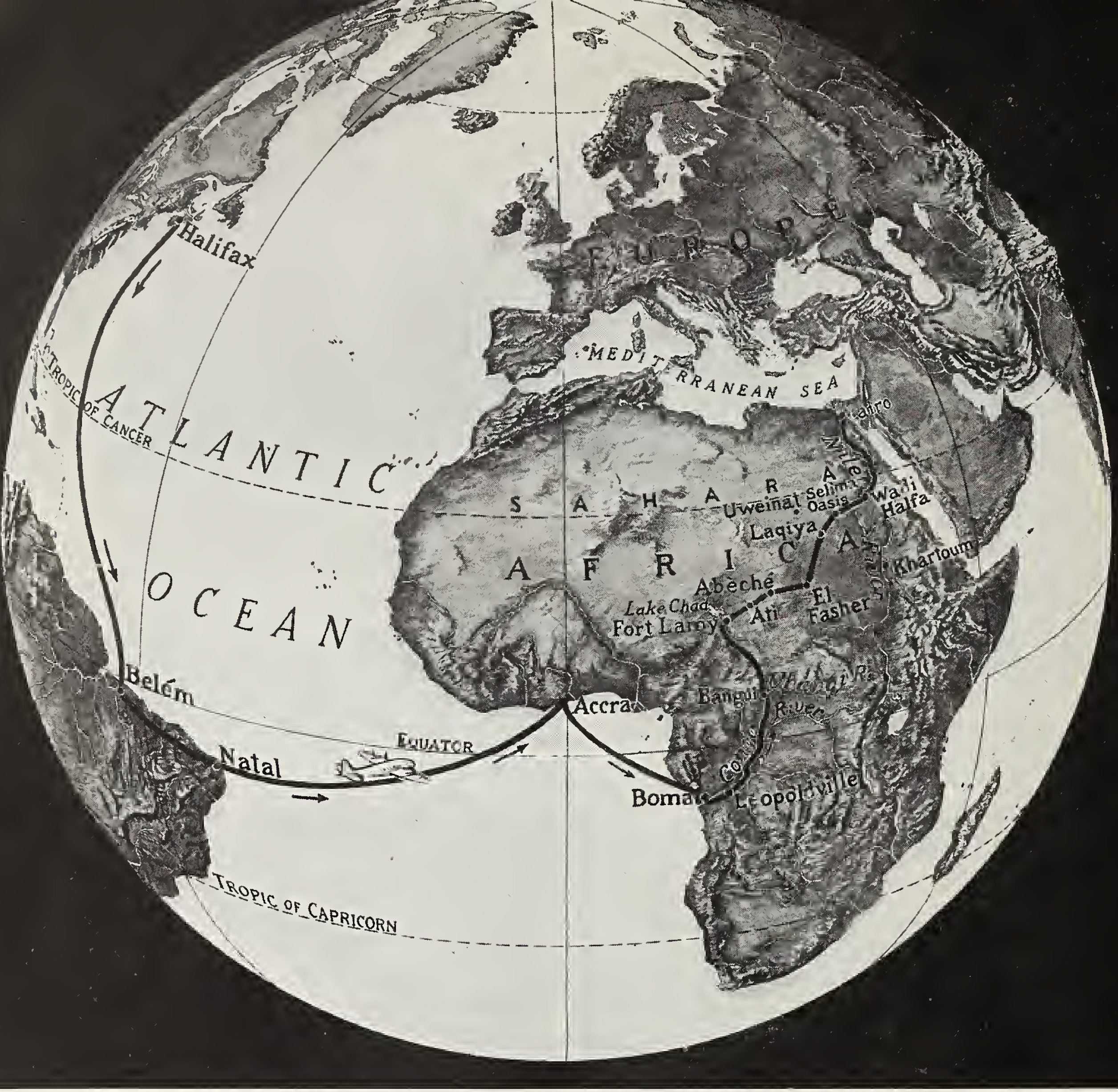


A picture of a globe showing our way across the hot dry lands in Africa.

MAKING THE GLOBE TELL A STORY

Let us look now at the globe and trace our route on it. Each time we look at the globe we should learn something new. Let us learn now something that will help us in our travels.

The equator passes around the earth in an east-west direction. Find some lines that cross the equator in a north-south direction. Find the north-south line just east of Lake Chad. Follow this line until you come to the North Pole. Find another line that crosses the equator near the middle of the Atlantic Ocean. Follow the line northward. What spot do you finally reach? Where do all the north-south lines come together? Find on the map above several of these lines that show you which way is north. Follow them to the top of the globe. Where do they all meet? What is the name of this spot? You can find the name on the globe.

The North Pole is as far north as you can go on the earth. Whenever you go toward the North Pole, you are going north. Whenever you go away from the North Pole, you are going south. All places on the earth are south of the North Pole. Look again at the globe and at your map to see that these statements are true.

All good travelers must keep in mind certain facts about directions on the earth's surface, or else they'll get lost. We must remember as we go on our journey that Lake Chad is north of where we are on the Congo.

Suppose you are on the South Pole. In what direction only can you go? If you keep your finger on the equator, there are only two directions in which you can move your finger. What are they?

LAND OF TALL GRASS

Now it is the morning of the great adventure. We load our baggage into Pierre's automobiles, wave good-by to Sako, and begin our journey. The road is not like our smoothly paved highways at home, but more like rolling, rough country roads.

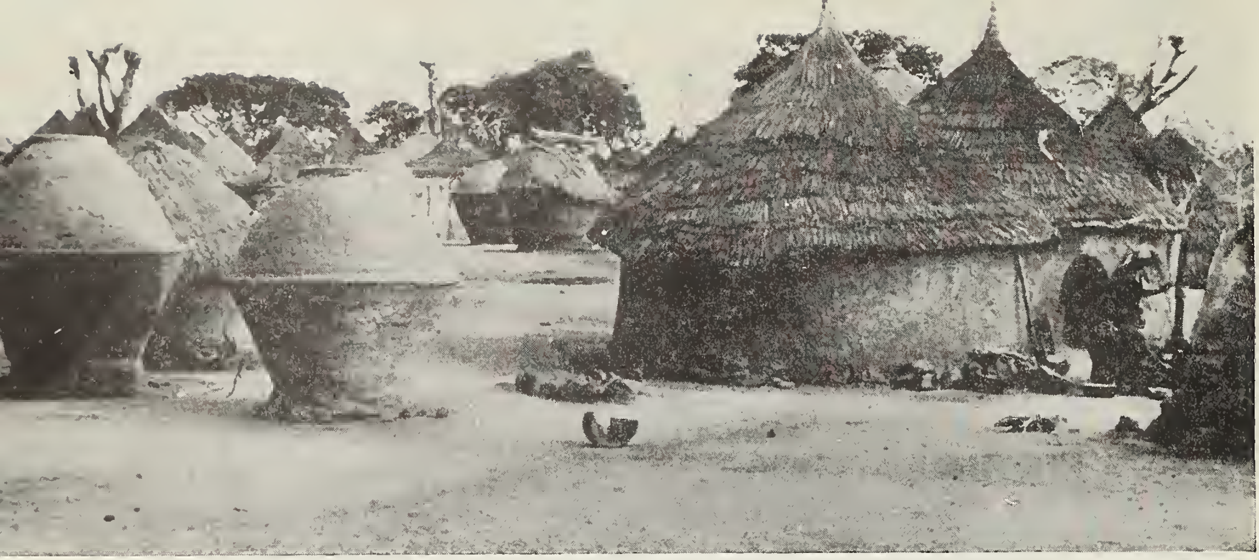
As we ride along, we take a last look at the jungle and shiver even in the heat. The jungle is so dark and mysterious! We wonder if anyone will ever discover all its secrets. Pierre says nobody will. No one will learn, either, all about the different tribes of Negroes that live there. They are all dark-skinned, but they do not live in the same manner. They build different kinds of homes and speak different languages. Pierre says, "If you should stay the rest of your lives in the Congo Valley jungle, you could not learn all about its people, its animals, and its plants."

After we have traveled for a time, Pierre says, "Look now at the changes in the forest. The trees are farther apart. There are not so many vines clinging to them. The ground is not covered with a mass of great plants." This is true, and after many more miles there is no longer a forest to look at. There are only clumps of trees here and there and among them places covered with grass.

We have never before seen such grass as this is. It is taller than our automobiles. It stands along each side of the road like a high wall, so that, in places, we cannot see over it. Now we have come to a clearing and see what looks like a cluster of enormous toadstools. When we exclaim over them, Pierre says that we are coming to a native village. The Negroes who live in this part of the grass lands build their houses of mud, which bakes hard in the sun. They roof them over with grass. The picture on page 54 shows these houses and near them the huge mud jars in which the natives store their grain.

A Resthouse

"Shall we sleep in one of those little houses?" we ask, for the night is now coming on. Pierre says, "You shall see." Very soon he stops at a low house with walls of mud and a roof of long grass. It is a resthouse built to take care of travelers through the grass lands. A hall with sleeping rooms on each side runs through the center of it. There are no windows, yet it is not stuffy, for air comes in through the hall. There are no beds in the sleeping rooms. Everyone sleeps on the hard-packed dirt floors. We shall be comfortable enough, for Pierre has brought blankets to spread on the floor. We have never done this before, and it will be fun for all of us.



Evans from Three Lions

A small village of mud huts in the grass lands. The grass has very little chance to grow inside the village.

Not far from the resthouse is the cook's house, where a few natives prepare food for the travelers. We must furnish our own food, however, so Pierre goes out to trade with the natives. Soon he comes back with eggs, tomatoes, sweet potatoes, oranges, two small chickens, and peanuts. In a bag he carries some millet, a very important grain to the people of the grass lands. We have a good supper.

The next morning we are up just before sunrise. The sky has a grayish-pink color. Then the sun comes up very suddenly, and soon this color fades. We are still in the land of short twilights and short dawns.

Our Great Adventure

While we are eating our breakfast, Pierre comes to tell us his plan for an adventure. We are not to go on our journey today. Instead, we are to go deep into the grass lands with the hope of seeing a herd of elephants. Pierre has found some village boys who will guide us.

To see wild elephants! That will be an exciting adventure, and we all begin to ask questions. "All right," Pierre says, laughing. "Do all your talking now. You will have to keep very still when you go elephant hunting." Then he tells us that we must follow our guides and do exactly as we are told, or we may get into trouble.

"Are the elephants such fierce animals?" we ask. Those we have seen in circus parades seemed very gentle. "No," Pierre says, "wild elephants are not fierce unless they are frightened. Then they are likely to charge straight into whatever has frightened them. That is why we must keep very still, so that they will not hear us."

In a short time we are ready to go, feeling very important. The village boys grin when they see us, thinking we are not elephant hunters at all, as they know elephant hunters. We feel small and rather frightened as we follow our drivers, who are led by the village boys into the tall grass. Still, we can't help being excited.

Swish! Swish! The wind sings through the grass. Swish! Swish! We rustle the grass as we walk. We cannot go silently as the native boys go. They seem to glide along, scarcely moving the grass, while we stumble along awkwardly.

Suddenly one of them stops and whispers a few words to Pierre, who whispers to us, "Quiet!" We stand still as stones while the guides run up a hill just ahead. Soon one of them comes running back and beckons to Pierre, who beckons to us. We move on again, trying our best not to make swishing sounds.

We climb the hill and look down into the valley. At first we do not see anything that looks like an elephant. Then suddenly we see a big herd of the great creatures, quietly feeding, like the ones in the picture on this page. They do not know that some school children from America are watching them. What a sight! And we don't dare say a word!

We understand after a while why we did not see the great beasts right away. The elephant is so nearly the color of shadows, of tree trunks, of great stones, that he is almost as well hidden among them as a rabbit at home is hidden in dry grass.

We are almost afraid to breathe as we start downhill, and still we don't dare say a word until Pierre says we are perfectly safe. Then we all talk at once and have a fine time. We have grown very tired, though, and we walk slowly back to the resthouse, where Pierre gives us a geography lesson.

A Talk about Seasons

"This land has a rainy season and a dry season each year," Pierre begins. "We are having the rainy season now, and it will last for several months. The grass grows very tall, the trees put out new leaves, and everything is fresh and green. The natives plant millet, corn, cotton, peanuts, and vegetables. Everything grows very quickly. In the pasture lands the sheep, cattle, goats, and donkeys grow fat on the tender new grass.

"By and by the dry season will come, and during that time no rain falls. The hot sun burns the grass to a dull gray-brown, and the leaves fall from the trees. The natives harvest their crops and store them in big mud jars and in grass huts built on stilts. Near the end of the dry season the natives often set fire to the grass. Then great flames sweep over the land. Wild animals have no place to hide after the grass is burned, which is one of the reasons why the natives burn it. Another reason is that more sunlight can reach the new grass when the tall old grass is gone."

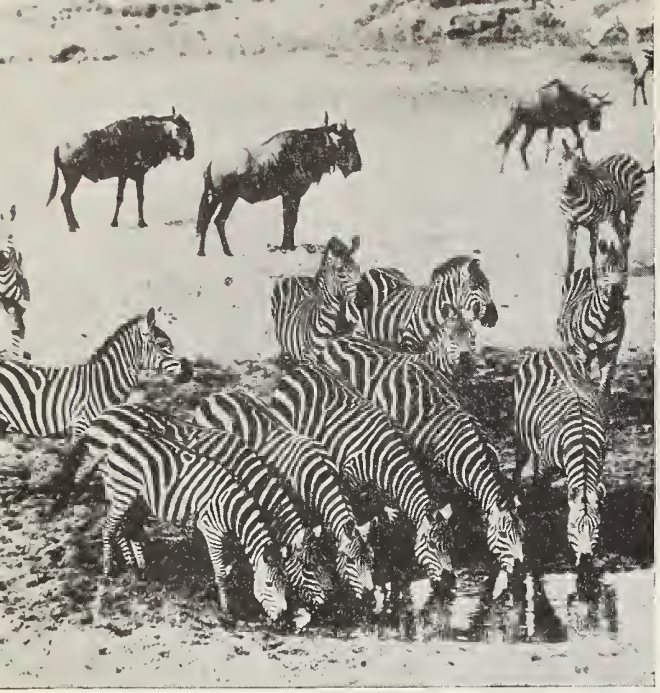
"Is there less rain farther north in Africa?" we ask. Pierre says there is less rain, and still farther north there is no rain. He shows us on his map the great desert which stretches all the way across Africa. It is usually called the Sahara Desert, though in different parts it is known by different names. Rain hardly ever falls on the Sahara. The Sahara Desert is shown on the map on page 52.

In the Grass Lands

Toward evening, after a heavy rain, we go with our guides through the village. We notice that everyone is dressed in blue. Pierre explains that the indigo plant grows well here, and that from it

The scattered trees and the tall grass make it difficult to see the elephants quietly feeding.

Ewing Galloway



Philip Gendreau

These odd-looking animals wearing the black and white stripes are zebras. Some natives tame them.

a deep blue dye is made. Cotton is also raised. The women spin the cotton fiber into thread, weave the thread into cloth, dye the cloth with indigo, and make clothes for their families.

In the gardens we see many gourds of different shapes, sizes, and colors. Pierre tells us that these, when properly dried, are used for dishes. We notice that the gardens are better cared for than others we have seen. They are more carefully planted, too. Several small children are pulling weeds or chasing the birds and baboons away from the tender young green plants.

Early the next morning we are off on our journey again. As we go on, we see that the grass is shorter and the trees are farther apart. Every night we stop at a resthouse. Every morning we are up before sunrise. One day we come to a river which, Pierre says, flows into Lake Chad. Then we know that we are coming to the end of this part of the trip.

We follow the river for a while and watch the animals as they stand on its banks to drink. The zebra is one of the oddest of these. We are told that his stripes are his best protection against his enemies. When he stands under a bush or a tree, the shadows cast on his back mingle with his stripes so that he can scarcely be seen. Very clever of the zebra to wear stripes! But these same stripes put him in danger when he drinks at a pool like the one in the picture at the left.

Antelopes graze all through the grass lands. Pierre says that there are many different kinds of antelopes, and that each kind has a name hard to pronounce. They are beautiful, graceful creatures. Their best protection from lions and other flesh-eating animals is the speed with which their long, slender legs carry them out of danger. In the picture below, notice how many are ready to leap away. We hope they will all run very fast.

"Where are the lions?" we ask. Pierre says they live here in the grass lands,

These graceful antelopes are shy, timid creatures, ready to run swiftly away when danger threatens.

Century Photos

but we are not likely to see them because they hunt at night. We think at once of the cats at home that go hunting at night, for we know that the lion is a member of the cat family. We are told that in the dry season, when animals are not plentiful, lions grow hungry. Then they are dangerous to travelers.

Near Lake Chad

We come now to swampy lands, and Pierre says we are nearing Lake Chad. He tells us that in the rainy season the lake spreads to almost twice the size it is in the dry season. Then some of the swamps around it are covered with water. This is because the rivers and streams that empty into the lakes are swelled by the rains.

"Now I will take you to another resthouse," Pierre says as we come to Fort Lamy, at the southern tip of the lake. "There I must leave you. I am sorry to do so because you are good travelers, not complaining much when you are hot and tired. I will find two other drivers to take you into the desert."

GOOD TRAVELERS STUDY MAPS

At the resthouse Pierre brings us a map like the one on page 52. "See," he says, "this is your route from here. You go east to El Fasher, then north to the great Nile River and to a country called Egypt."

We trace our route. From Fort Lamy we go east to Ati, to Abèché, to El Fasher. From El Fasher we go north and a bit to the east to Laqiya, to Selima Oasis, and then on to the Nile and into Egypt. What strange names these places have!

"See," Pierre says again, "a map tells you many things if you have eyes to see. The fact that the map is so bare tells you something. There are no rivers running through the land. Little rain or no rain, no rivers. Very few towns are marked on the map. Little rain or no rain, few people. Here you see the name Selima Oasis. That name alone should tell you something, if you know what an oasis is."

Pierre says that an oasis is a place in a desert where there is water enough for plants to grow. We look at the map and know that Selima Oasis must be right in the desert. The next town is Wadi Halfa, right on the Nile. Pierre says that there are millions of people living in the valley of the Nile.

"There must be rain in the Nile Valley," someone says. Pierre shakes his head. No! No! There is no rain in the valley. "Then why are there so many people living in a place where no rain falls?" Why? Pierre will not tell us. He says, "You shall see for yourselves."

He tells us to look at the map again and see that the Nile River flows north. We are not to think of the river flowing *up* because it flows north. Water flows downgrade here just as it does in all other parts of the world. North does not mean *up*, but toward the North Pole.

ON TO A LAND OF HERDERS

Early in the morning Pierre comes again, bringing two drivers who will take us on toward the Nile. Both are Frenchmen. One driver, named Jean, speaks English quite well. The other speaks only French and the language of some of the natives. Their automobiles are much like those in which we have come from the Congo. The drivers tell us that they will not be ready to start for several hours, since they must get a good supply of oil, gasoline, water, and food. "Then," says Pierre, "I will stay with you that long and show you some of the sights." We are delighted, for we have already learned much from Pierre.

A Caravan

Pierre takes us a little way from the resthouse to a place where a caravan has put up for the night. Camels loaded with dates and salt make up the caravan. It is guided by Arabs who wear long, flowing robes that come to their ankles, soft leather shoes, and odd head coverings, like the Arabs in the picture below. They have found such clothing best suited to traveling through the desert.

We are more interested in the camels than in the Arabs. We have never seen camels before except in circus parades. "Are camels always used in caravans?" we ask.

"No, sometimes donkeys or horses are used," replies Pierre. "But no other animal is so well suited as the camel to travel the rocky and sandy desert. Listen while I describe his good points."

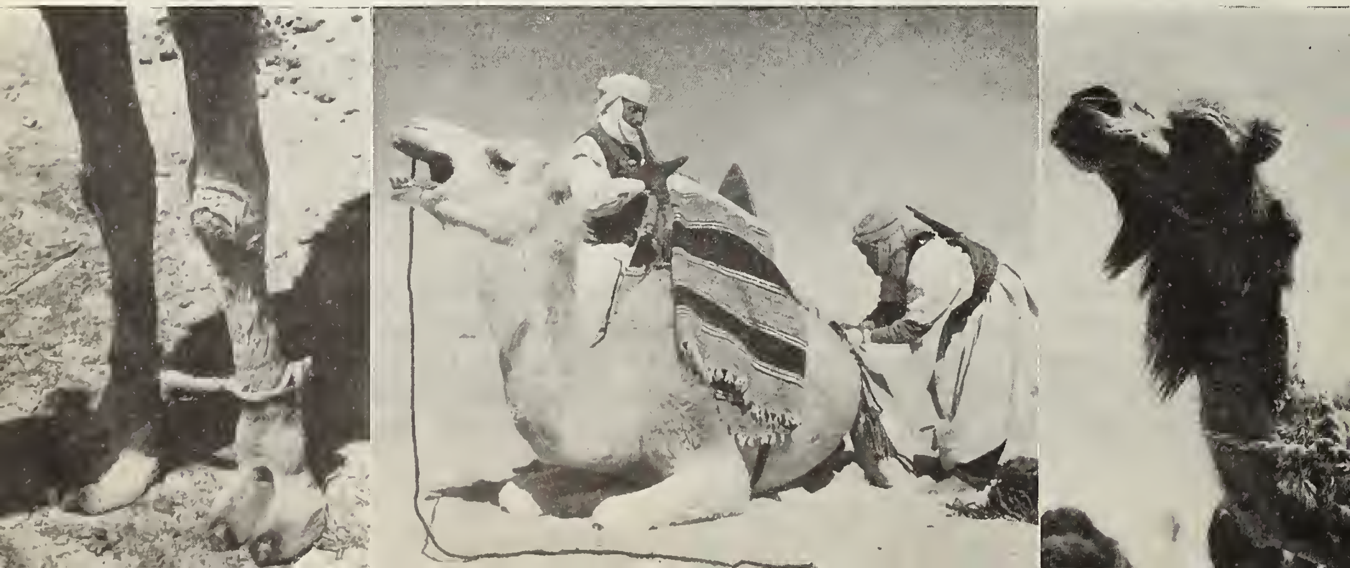
Let us study the pictures on this page as Pierre talks to us about the camel.

"The hoof of the camel is divided almost to the ankle into two well-padded toes. This padding makes him surefooted on rocks and keeps him from sinking deep into the sand. His knees have thick pads, also. This is well, for he must kneel often. His lip is divided. Thus he can use it like a pair of fingers to pull at a thorny desert plant without hurting himself. His nostrils are wide, so he can breathe easily. He can draw his nostrils tightly together when the air of the desert is heavy with sand. His back is arched so that heavy loads may be placed upon it. Inside him he has pouches that hold enough water to last him for several days."

"Why is the camel so cross-looking?" someone asks.

"That is his nature," Pierre replies. "He is sullen. He does as he is told, usually. He kneels, gets up, kneels again, gets up, and goes on his way as he is directed. But he never seems happy about anything. You may stroke him, pet him, smile at him. He never smiles back. That is bad!" Pierre laughs at his joke and goes on.

"I will tell you another bad point about Mister Camel. He has an unfortunate way of carrying himself. He moves



The camel's many good points enable him to carry heavy loads for long distances across the hot, dry desert.

Pix Publishing, Inc., Photos

his two right feet together and then his two left feet together. When you see him walk, you think he will surely fall over. He doesn't. When you ride on his back, you think you will surely fall off. And you may. It is something to get used to, riding a camel! Many people get a sickness from riding him, like seasickness. That is because he rolls his rider from side to side like a ship on high waves at sea. But that is not why he is called the 'ship of the desert.' He is called that because he carries goods from one place to another on the desert as a ship carries goods from one harbor to another over the ocean."

Arabs and Bedouins

We say good-by to Pierre at last and go on with our journey. We travel eastward through grass lands much like those we have already seen. Now the land is more rolling. Sometimes we have the feeling that we are riding a roller coaster like those in the parks at home. Up and then down, around a curve, up again, down again.

Jean says the dark-skinned natives call themselves Arabs, but they do not look like the Arabs we saw at Lake Chad or like the Congo Negroes, either.

Now and then we see fields of cotton and corn between stretches of millet. Here and there are native huts, roofed with millet and shaped like ice-cream cones. Now we come to a cluster of date palms. Jean stops his car, and we look at the palm trees. They are tall, some a hundred feet tall. At their very top grow long leaves and clusters of dates.

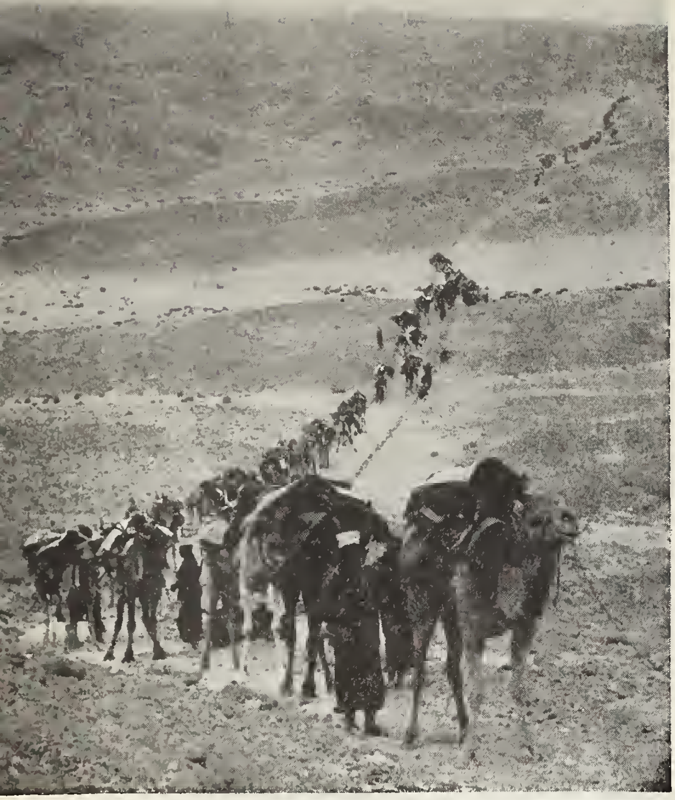
By and by Jean says that in this journey we are sort of halfway between farm lands and the lands of the *herders* or *Bedouins.* He explains that some of the country is so dry that crops will not grow, yet enough grass grows for animals to feed on. Bedouins roam through these lands with herds of cattle, sheep, donkeys, and camels. When the animals have eaten all the grass in one place, the Bedouins drive them to another. Since they must move often, the Bedouins have found a tent the best kind of home.

Burton Holmes from Ewing Galloway

The Bedouin tent is left open on one side to let in the air. Often sheep will slip into the tent.

The tent, as the picture above shows, is made of cloth woven of goat's hair or camel's hair and stretched over poles set into the ground. Usually one side is left open to let in the air. When the family moves, the cloth part of the tent is rolled into a bundle around the poles. Then the whole bundle is placed on the back of a camel.

The tent doesn't have the kind of furniture we use. Soft cushions take the place of beds and chairs because they can be moved easily and take little space in the tent. There is no stove. The fire for cooking is made on the ground. Cooking pans and dishes are of the simplest sort, and only a few are used. Wheat, millet, barley, rice, and dates are the foods most commonly used because they can be easily packed and will not spoil in the hot desert air.



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A camel caravan winds its way across the rough and hot desert land, following the rocky caravan trail.

The Bedouins do not raise crops; so they must get their food from natives who do. They do not buy foods, but trade for them. They will give a sheep, a goat, a donkey, perhaps even a camel, for so much wheat, millet, or rice. Little money is used in this part of the world.

The Bedouins drink camel's milk or goat's milk, and they also make cheese of the milk. Now and then they kill one of their animals when their food supply is low. Often, too, they kill a wild animal, such as the antelope. Then they have a real feast.

We learn something each day as we go on through the land that is sometimes farm land and sometimes herders' land. Each night we stay at a resthouse near a village. Here there are wells, or perhaps only one well, but we can have plenty of water to drink.

At El Fasher, Jean puts in an extra supply of water for the cars and for us, too, because from here on into Egypt wells are very far apart. Jean takes extra cans of gasoline and oil. Food is packed carefully.

At last we are off again. The road is not so good as other roads we have traveled. In some places it is not a road at all, but only a rocky caravan track. In one of the narrowest of these places, we meet a long caravan like the one in the picture on this page. We pull to the side of the road while the caravan slowly passes.

7

The heat is terrific. The northerly wind is like a blast from a furnace. We wish we had headcloths, such as most Arabs wear, to protect our faces from the stinging sand. We are thirsty all the time, and if we were allowed to we would drink all our share of water at once. It is only three days since we left Lake Chad, but it seems much longer than that.

As we go on, we see great rolling mounds of sand that remind us of the rolling waves of the ocean. Part of the way the sand lies in smooth sheets which reflect the bright sunshine in our eyes like great mirrors.

When day is done, the sunset is so beautiful that we almost forget how uncomfortable we have been. Under the rays of the setting sun, the sand turns to a delicate pink, then to a rich rose. When real darkness comes, the sky looks like dark-blue glass. The stars seem so low that we feel we might reach up and pick them out of the sky. Now we remember that long ago people thought the sky was a great, glassy bowl turned over the earth, and the stars were glittering jewels.

Rest in Selima Oasis

On the fourth day we come to Selima Oasis. Here is green grass, and, best of all, plenty of water to drink. There are date palms, like the tree in the picture on the opposite page. Two of the

native boys climb a tree and fill their baskets with the ripe fruit for us. The fresh dates are delicious. They taste even better than the ones we buy in the shops at home. As we sit in the resthouse eating the dates, Jean comes dashing in and shouts, "News for you! There are men here from your own country!"

Men here from America! Who are they? "Very wise professors," Jean says. Our hearts sink. Very wise professors will be too wise for us. They won't be interested, we think, in some dusty, tired, hungry school children.

That is where we are wrong. The professors are glad to see us when we meet them at supper. They want to know what we are doing in the desert, and we tell them that we have run away from school and study. They tell us that they have come to the desert *to* study.

They say that west of Selima Oasis is a place called Uweinat. There are signs at Uweinat that this land once had more rain than it has now. That was many thousands of years ago. How many thousands not even the professors can tell.

Why do they think that there was once more rain in the land? There are pictures, very ancient pictures painted on rocks, which show how people lived here at one time. People could not have lived in the way shown by the pictures if there had not been more water than is here now.

Now we ask them quickly the question that has been in our minds. "How can millions of people live in the Nile Valley when no rain falls there? Pierre told us, 'You shall see,' but we have not seen yet."

One of the professors says, "You shall see *how* the people live in the Nile Valley and in Egypt when you get there. I will tell you *why* they can live there. It is because they can raise much good food in the Nile Valley. For thousands of years, the Nile overflowed its banks every year. It watered the land for miles and miles. When the river overflowed its banks, it deposited a layer of rich soil which was just right for corn, cotton, rice, wheat, millet, and many different kinds of vegetables. Crops do not need to have rain from the clouds if water is given to them in some other way. That is why millions of people can make a living in the valley of the Nile."

MAKING THE MAP TELL A STORY

The professor takes a map from his pocket and spreads it before us. Our map on page 52 shows the same country. "First of all," he says, "you must know that the Nile is one of the longest rivers in the whole world. It is four thousand miles long. There is only one river that is longer, and that is in our own country. The Nile rises far, far from this place, as you will see on the map."

We see that the Nile has many tributaries. The Blue Nile and the White Nile are the largest of these. The Blue Nile comes from the mountains of eastern Africa. The White Nile comes from the very heart of Africa, a land of heavy rains. Now we understand where all the water of this mighty river comes from. We trace the two rivers on the map and see that they meet at Khartoum.

We learn that it is the White Nile which gives the great river its steady flow of water. We trace it and its tributaries into the heart of Africa. The Blue Nile, coming from the mountains, flows with great force. It flows with such force that it carries quantities of rich, red-brown soil.

At seven places in the Nile are waterfalls, or cataracts, caused by the river's course down the mountains or hills. Now we understand something of the force of the river.

The professor folds the map and puts it away. Then he tells us stories of ancient Egypt and the Nile.

The Egyptians, who have lived in the Nile Valley for thousands of years, have given many things to the world. One of these is the calendar. It seems like a very simple thing, and you don't think much about it except when you want to know how long it will be till Christmas or the First of July. Yet the first calendar took much study and thought. Our calendar is not like the first one, of course, but it follows the same plan. The Nile River was very helpful to the wise men of Egypt when they made the plan of the calendar.

The weather in Egypt has been about the same, year in and year out, for thousands of years. It is warm, free from frost, and very dry. The floods of the Nile have been coming each year for thousands of years. The ancient Egyptians counted on the floods because they wanted to plant their crops at just the right time to get the most good from the water. But they didn't know when to expect the floods because they had no way of keeping a record of time.

Then by and by some wise men found out that the floods always came when the stars were at certain places in the sky. They learned, too, that there were twelve full moons from one flood to the next. After much study they said, "We'll call the time between two floods of the Nile a year. We'll divide each year into twelve parts to match the full moons." That was the beginning of the calendar.

The pyramids of ancient Egypt are famous all over the world. They were built by the powerful kings of Egypt so that people would remember them after they were dead. Many of the pyramids are still standing. There is a picture of some of them on page 51. They were made of enormous blocks of stone, one on top of another, reaching up, up, and up toward the sky, but nobody knows just how they were built. The men who built them didn't have machinery to lift such blocks. How did they lift them? No one knows. Even now the wisest men can't decide how pyramids were built.

There are many rooms inside the pyramids, and in these were stored treasures that belonged to the kings and queens of that day. The rooms were sealed so that no one could steal the treasures. Now some of the rooms have been opened, and from their contents we have learned many things about the ancient Egyptians.

The ancient Egyptians liked jokes. They liked to make pictures that told funny stories, much as our comic strips tell funny stories. They did not have newspapers, of course, but they made comic strips just the same. The comic strips were carved on stone at first, but later paper was used. Some of these funny pictures are still to be seen in museums. One shows a donkey, a monkey, a lion, and a crocodile giving a concert. And that is funny, even today.

Down the Nile

The next morning we are up early and ready to go on through the desert. After having listened to the professors tell of the wonders of Egypt, we are more eager than ever to see this land for ourselves. At Wadi Halfa, a clean and pleasant city, we say good-by to our drivers and take a steamer down the great Nile.

The farms along the bank look fresh and green to us after our long trip through the desert. But where are the farmhouses? We are told that the farmers live in villages, like those in the pictures on page 64. This way of living leaves more space for crops, and that is important. There are millions of people in the Nile Valley, and all of them, on farms and in cities, must be fed from its crops.

A Nile Village

When our steamer stops at a village, we decide to get off and spend a day there. The streets of the village are narrow and crooked. The only broad roadway runs along the river bank. Near the center of the village is the market place, and close to this is a mosque, where Egyptians worship. We shall see many of these mosques as we go on down the Nile. Their lovely domes and slender towers, called minarets, are a part of every village and every city.

The people of the village gather in the market place, as we see in the picture below, to do their trading. The men wear long gowns of blue or white cotton cloth and small, close-fitting caps. Some men wear turbans, which are long pieces of cloth wound round and round their heads and fastened securely. The women wear long dark dresses and black shawls or veils over their heads.

As we walk among the people, we wish we could understand their language. Still it is interesting just to watch them. We have heard about the way of trading along the Nile. It is done in this way. The man who has something to sell asks three or four times the price it is worth. He expects to come down on the price. The man who wants to buy offers about one-fourth of what the thing is worth. He expects to pay more. The two men spend a great deal of time talking, arguing, shaking their heads, and waving their hands. But after a time they agree on just about the right price.

We look closely at the houses. We know it isn't polite to stare at other people's homes. But these are so different from any others we have seen that we can't help staring. They are like those in the pictures below. The houses are made of mud bricks baked hard in the sun and have straw roofs weighted down with stones. Each house has a door but no windows. Two small openings in opposite walls let in the air. The house must be very dark inside.

We have been told that the furniture is not anything like ours at home. The cupboard is only an opening left in the wall. The bed is a platform of mud bricks. The stove is a brick oven, and the dishes are of mud baked hard so that they will hold water.

As we walk along, we see a woman grinding corn between two large, round, flat stones at the side of her house. A little girl comes out of the door, chasing

Village scenes showing the market, grass-roofed houses, and a woman carrying water from the Nile River.

Philip Gendreau *Century Photos* *Philip Gendreau* a sheep and a goat from the house. Near the door is a bowl of porridge standing in the sun as though it were being kept warm there. We know fuel is scarce in Egypt, as there are few trees and no coal.

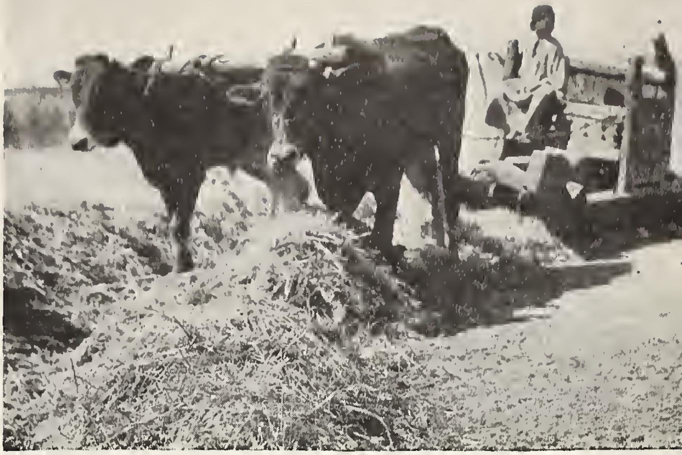
At sunset we see the women going down to the river to do their washing and to dip water for cooking and drinking. As we saw in the picture on page 64, they carry great baskets or water jars on the tops of their heads. They walk very straight, very gracefully. Around them pigeons fly with a whir of wings and light on the roof tops, where they sit cooing.

Floodtime on the Nile

As we take another steamer on to Cairo, we have many questions to ask about Egypt, and we wish we would meet the professors again. There are no professors on the steamer, though there are a great many people who, like us, have come to see the sights of this ancient land. Luckily, we meet a friendly passenger who has been here many times before and who tells us a great many things.

In ancient days the flood waters flowed over the land without being stopped. Men planted their crops in the deep mud. Sometimes they even put their seeds right in the water. But now dams have been built, and the flood waters are stored and let out when the crops are to be planted. Great gates have been made which can be opened to let the water out, then closed again.

At the planting seasons the great gates are opened. The water passes through waterways or canals and ditches, mud and all. The picture on page 51 shows fields ready for the water. While wheat, barley, cotton, corn, or vegetable crops are growing, the flood gates stay open and the fields are well watered. Then, one after another, the gates are closed and the Nile River again stores up flood water back of the dam.



De Cou from Ewing Galloway

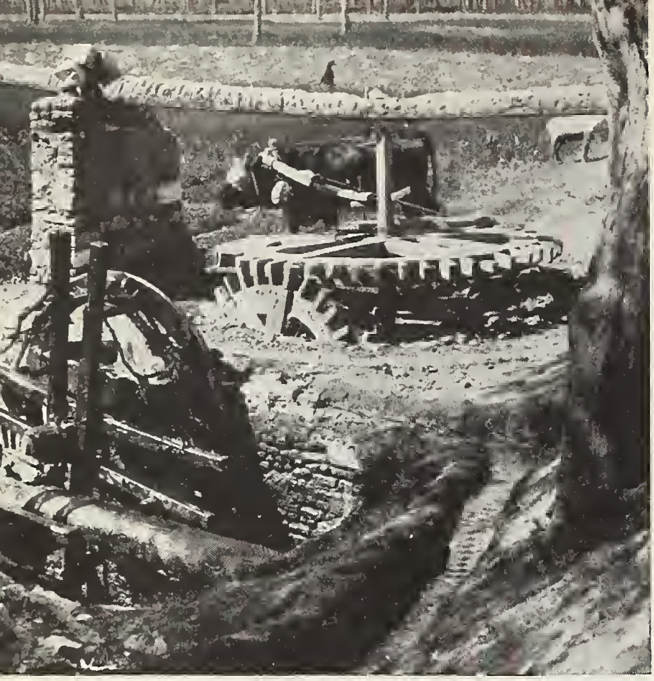
Oxen draw a heavy, queer-looking sled round and round over the stalks to thresh out the grain.

Because of the dams and the water stored behind them, crops can be raised two and sometimes three times a year. Egypt is free from frost. Therefore, as soon as one crop is harvested, another can be planted.

It seems strange to us that farmers still do their work as they did it thousands of years ago. They still use oxen to draw homemade wooden plows through the soil. They cut the grain with sickles as in the earliest times. After the crop has dried, they spread the stalks on the ground to be threshed. Oxen are hitched to a queer, heavy sled, as you see above, and are driven over the heaped-up pile many times. Between the wooden sled runners are small iron wheels with sharp edges. These, with the weight of the sled, crush the stalks and free the grain.

Many acres of land are still watered from wells like the one on page 66. One of the farms in the picture on page 51 is watered in the same way. Nearly everything in the fields, and in the houses as well, is done now as it was long ago.

We are told that people in cities have changed their ways of living. But life on the farms and in the villages has not changed much, and the people still depend upon the friendly Nile.



Ewing Galloway

Some farmers along the Nile water their fields from wells. Can you figure out how the pump works?

Ewing Galloway

These graceful Egyptian ships are small, but they carry much of the goods sold along the Nile River.

Our steamer moves steadily along. We sit in our deck chairs and look out at the water and the banks of the river. Beautiful pictures are always and always before us. It is almost as if we were at a movie. Only, of course, the pictures are not moving. We are.

Green fields and gardens pass before us. Villages follow the fields. The minarets and domes of the mosques stand out against the blue sky. Fields follow villages again, and palm trees march along the banks in between. The river itself is lively with boats of all sorts. There are many sailboats like those in the picture above. The bright rays of the sun give everything a golden appearance as if King Midas had suddenly visited Egypt with his magic golden touch.

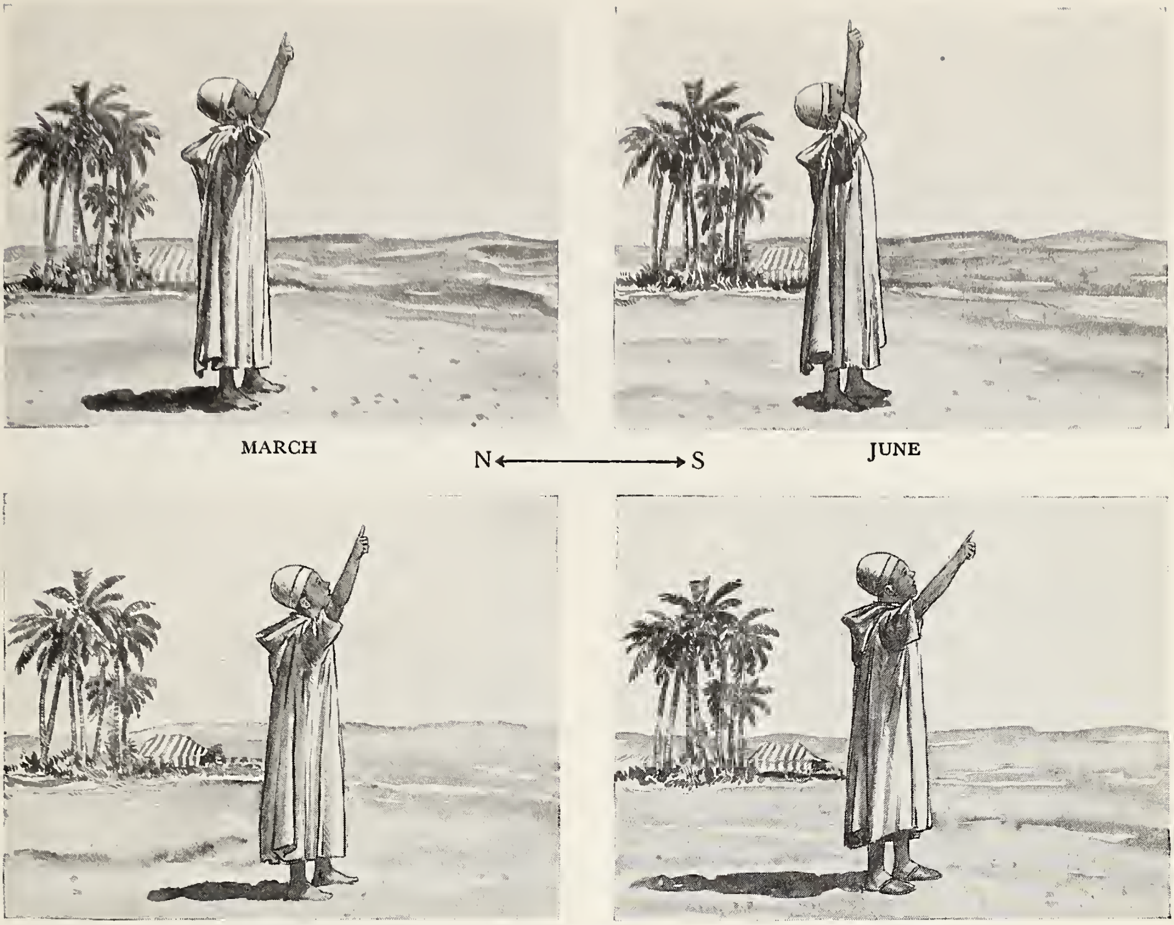
We turn and see the friendly passenger who told us how the people of Egypt depend upon the Nile. We remember our trip through the desert where, in places, nothing at all grows. And this beautiful oasis along the Nile would be as empty and barren as the desert if it were not for the waters of the Nile. Once again we are glad there is such a river.

THE GEOGRAPHY WORKSHOP

In The Geography Workshop you can test what you have learned about hot dry lands. You have studied about hot wet lands. They are about the same distance from the equator as hot dry lands. But people lead different lives in hot wet lands. As you do this work, find the differences in the way people live in hot wet and hot dry lands.

THE NOONDAY SUN

The hot dry land you have just been studying extends from near the equator to north of the Tropic of Cancer. Find the equator and the Tropic of Cancer on the map on page 52. In all places near the equator the noonday sun is straight overhead at some time of



MARCH JUNE

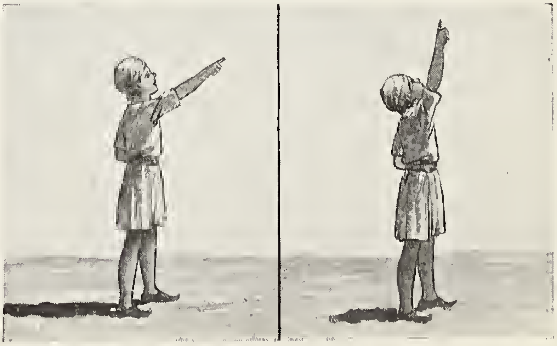
SEPTEMBER DECEMBER

Arab boy pointing to the noonday sun at different times of the year. He is standing at the Tropic of Cancer.

the year. But the noonday sun is never straight overhead north of the line marked Tropic of Cancer on the map. Of course, there is no real line on the earth. The Tropic of Cancer is merely a line on the map just as the equator is only a line on the map. In fact, you cannot tell exactly where the Tropic of Cancer is on the earth itself even by looking at the sun. The earth is so large that you might travel many, many miles before you were at all sure that you had crossed the Tropic of Cancer.

The pictures at the top of this page show an Arab boy standing at the Tropic of Cancer and pointing to the noonday sun at four different times of the year. Study these pictures carefully. Then study the pictures at the right and answer the questions you will find just above the pictures.

The pictures below show two boys near Cairo. Which boy is pointing toward the noonday sun on a winter day? on a summer day? How do you know? Is Cairo north or south of the Tropic of Cancer? Does the noonday sun ever shine straight down on Cairo? Why or why not?



YOUR HOME AND OTHER HOMES

Compare a list of building materials used in making your home with a list of those used in making a home in an Egyptian village. Which of the materials in your home could well be used in the Egyptian home? Do you think that such materials would bring greater comfort to that home? Why or why not?

Compare Sako's home and José's home with a home in the Egyptian village. How is each home suited to its own place? Do you think that Sako's home could be improved upon and still be suitable to the place where he lives? How would such improvement come about? Is the same thing also true of José's home?

The Egyptian houses often wear out. Why do you think this is true? How difficult is it to get materials to make a new house?

YOUR FOOD AND THAT OF THE EGYPTIANS

What foods do you eat that are also eaten by the people of the Nile villages? What foods do you have that would be strange to them?

YOUR CLOTHING AND THAT OF THE EGYPTIANS

You know that the Nile Valley is free from frost. Think of the different kinds of clothing you wear for which the Nile people would have no use. Name the things they wear for which you would have no use.

A PICTURE SHOW

Have you been collecting pictures which help to give you an idea of the desert? If so, have a picture show now. Try naming your own pictures of various interesting places you have visited. Or plan a wall decoration for the whole class to work on.

USE THE RIGHT WORDS

Here are ten sentences with words missing. Above the sentences is a list of words. All the words you will need are in the list. You will need to use some more than once. You must be careful, for there are two words in the list that you will not need. Be ready to read all the sentences, using the correct words. Or you may wish to write the sentences.

herders
south
east
North Pole
South Pole
oasis
equator
north
west
desert
Congo
Nile

1. On a globe you can see that the xxxxx passes around the earth in an east-west direction.
2. All the north-south lines come together at the xxxxx xxxxx and the xxxxx xxxxx.
3. The xxxxx xxxxx is as far south as you can go.
4. The xxxxx xxxxx is as far north as you can go.
5. If you were standing at the North Pole, the only direction you could go would be xxxxx.
6. If you could walk along on the equator, you could go xxxxx or xxxxx.
7. A land that is so hot and dry or so cold and dry that little or nothing will grow there is called a xxxxx.
8. An xxxxx is a place in the xxxxx where there is water enough for plants to grow.
9. The Bedouins are xxxxx who pasture herds of cattle, sheep, and camels in the parts of the hot dry lands where only grass will grow.
10. Because the xxxxx can be used for supplying water, crops can be grown along this river.

Which two words did you not use?

BOOKS TO READ

Ask at your library for *Glimpses into the Long Ago*, by Edna McGuire. Read pages 39–76 for more information about Egypt. *Sokar and the Crocodile*, by Alice Howard, is a good fairy story. *Gift of the River*, by Enid L. Meadowcroft, tells how the overflowing of the Nile helps the land and the people.

For jungle stories, read *Just So Stories*, by Rudyard Kipling, and *J. T., Jr., the Biography of an African Monkey*, by Della Akeley, wife of a famous African explorer. *Peter and Nancy in Africa*, by Mildred H. Comfort, tells about two children who went exploring in Africa with their famous uncle and saw many strange and wonderful sights.

Three Lions

The citrus groves and the vineyards are often right next to each other. Each of them produces fine fruits.

Living in Mediterranean Lands

TO A LAND OF FINE FRUITS

It was a hot afternoon. We sat lazily on the deck of the steamer watching the pictures along the river pass by slowly. We knew that we should be in Cairo, famous city of the Nile, in the morning, but we didn't know where we were going from there. We had been too lazy to make any plans. Traveling in such very hot lands had made us feel lazy.

The friendly passenger who had told us much about Egypt came down the deck and stopped at our chairs. "What land are you globe-trotters going to visit next?" he asked.

We said we didn't know. We had been in the hot wet lands of the Amazon and the Congo. We had come through the hot dry lands of the desert. But we didn't know where to go next.

"Would you like to visit a land that is both wet and dry?" he inquired.

"Is that a riddle?" we asked. It must be, for how could there be a land both wet and dry?

"No, it isn't a riddle," the friendly passenger said. "My own home is in such a land. In my country we have dry summers and very wet winters, so you see it is a land that is both wet and dry. If you wish to visit a land of fine fruits, come with me to Greece." And he told us about the lemons, olives, grapes, and other fruits that grow there.

He told us, too, about his daughter who is learning to speak our own language. "If you will come with me," he said, "she will show you some of the sights. Thus she will help you. She will improve her English because she will have to speak the English language when talking with you. Thus you will help her. That is good trading."

Then our friend told us his name, which we found very hard to pronounce. He laughed at our difficulties and said that *Kyrios* is the Greek word for "mister" in our language, and that we should just call him Kyrios. That didn't seem very polite to us because we are used to putting "Mr." before a man's name. He made a joke of our problem and said we should call him Mr. Kyrios, which in our language would be Mr. Mister. We were glad to use this name, for we found it easy to pronounce. We needed only to think of "cheerio," change the *ch* sound to *k*, and add an *s* sound at the end.

"Greece is a very friendly country," Mr. Kyrios went on when the problem of his name had been settled. "It reaches out into the sea as if it were coming halfway to meet visitors. The people are like that, too, as you shall see if you decide to come with me."

We decided to go to Greece, land of fine fruits. We asked how to get there.

"You may go from Cairo to the sea, and from there you may take another steamer across the sea and into a harbor of Greece. Or you may come with me and make the trip more quickly by airplane. When our steamer arrives at Cairo, I shall take a plane from there to Athens, my home. Here, look at the map and see for yourselves." And he spread a map on the table before us.

MAKING THE MAP TELL A STORY

The map shown on the opposite page is somewhat like the one Mr. Kyrios used. It is a large picture of part of the map on page 52. On that map find the part that has been made large.

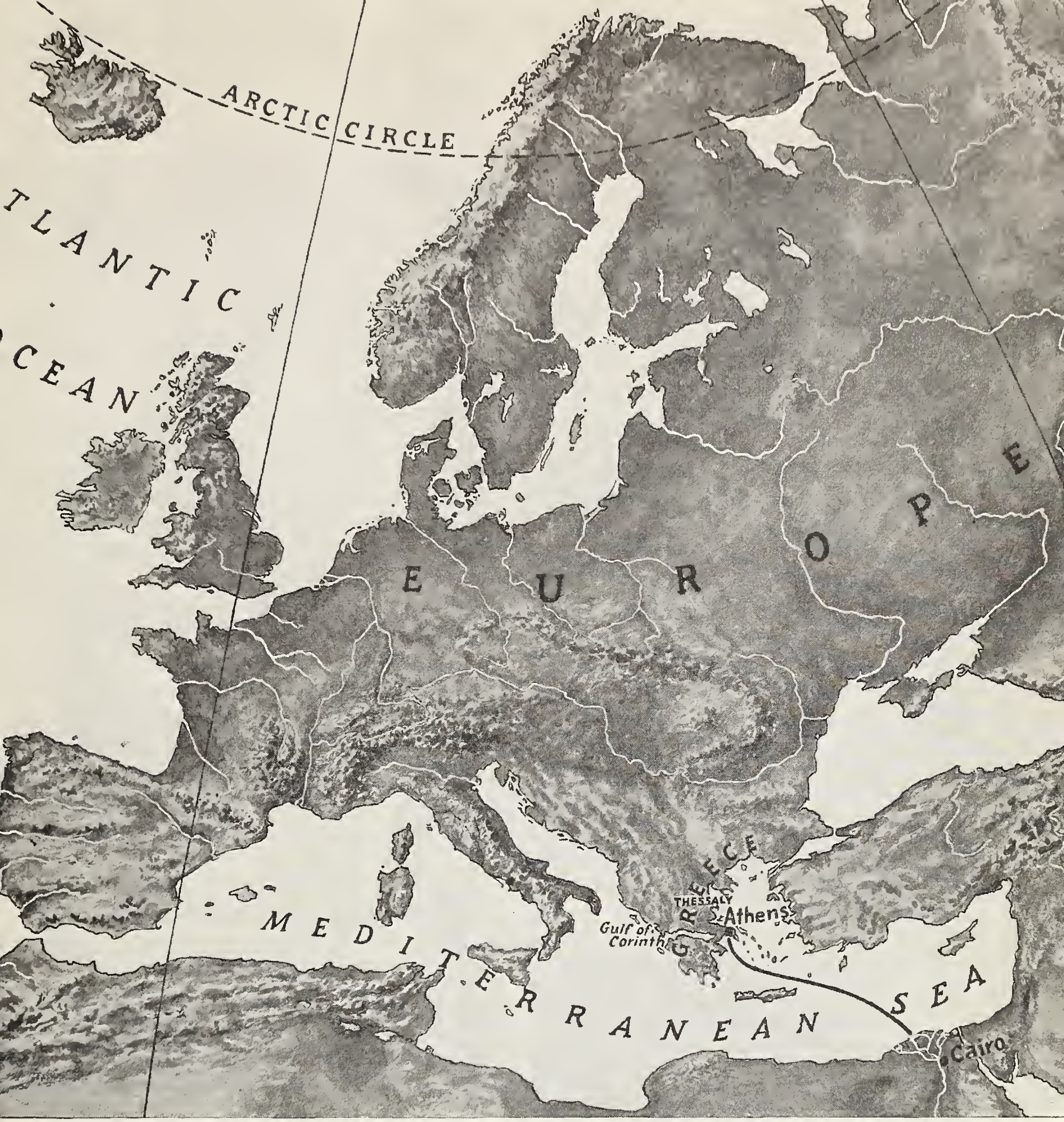
We found the Nile on the map and then the city of Cairo. We saw that the Nile, like the Amazon, empties its waters into the sea through several mouths. These mouths make a delta, and Cairo lies where the river begins to branch at the delta.

The sea into which the Nile empties is the Mediterranean. Mr. Kyrios explained that the word Mediterranean means "between lands." That is a good name because the sea lies between the great continent of Africa on the south and the smaller continent of Europe on the north. Greece extends into the sea, truly as if it were coming halfway to meet us.

The Mediterranean is friendly to Greece. As we see below, it extends arms into the

These rugged mountains of Greece reach out into the sea and provide good harbors for Greek fishermen.

Evans from Three Lions



A map of Europe and the Mediterranean Sea showing our trip from Cairo to Athens.

land at many places. These arms of the sea are called *gulfs* or *bays*. They give Greece a very irregular coast line, so that it has many harbors. Some of the harbors are not large enough for ships, yet they are useful for the small boats of the fishermen. In one place the sea almost divides Greece into two parts. Only a narrow neck of land joins these two parts together. Such a neck of land joining two large areas is called an *isthmus*. This one is called the Isthmus of Corinth.

Mr. Kyrios showed us Athens on the map; then he pointed out Cairo again. He made his finger leap across the map from Cairo to Athens as we should fly in a plane over the Mediterranean Sea.

FROM CAIRO TO ATHENS

The next morning our ship steamed into the harbor at Cairo. We hurried with Mr. Kyrios to the airport. Our plane was nearly ready to take off. We hopped in and fastened our seat belts and soon we were high in the sky.

The city of Cairo was spread out below us and we could see fine buildings, wide streets, and graceful palm trees. We could see a bit of the old part of the city, too, with its narrow and crooked streets and its mud-brick houses. Soon we saw the pyramids standing as they have stood, strong and beautiful, for thousands of years. We wondered how they could have been built without the help of machinery. Sometime when we are older we shall come to Cairo again and visit the pyramids.

After a hundred miles of flying over the Nile Delta, we came at last to the Mediterranean. We saw the dark-blue waters of the sea sparkling in the sunlight. A great many ships sailed on the sea. They looked like toy ships in a big bathtub. After a time, we saw great hills in the distance, and Mr. Kyrios said we were having our first view of Greece. Then he gave us a geography lesson.

We learned that Greece is a very mountainous country. The slopes of one mountain meet the slopes of another, with very little lowland between. In some places the mountains go right down to the sea and even into the sea, like those in the picture on page 70. Mountains that extend into the sea may be dangerous to ships. The tops or peaks of the mountains stand out rough and jagged against the sky.

Mr. Kyrios explained that the mountains have kept the people of Greece apart. In long-ago days, when travel was more difficult, the people in one mountain valley did not know the people in the neighboring valley. When people don't know each other well, they are likely to misunderstand each other. They are likely to quarrel over things that don't really matter. Quarrels bring about hate, and hate brings about wars. In long-ago days there were many wars fought between the people of different parts of Greece, and the mountains were, in a way, to blame for the wars.

Then Mr. Kyrios said, "I am glad that you are traveling over the world so that you may know the different people who make up the world, and they may also know you. If people know and understand each other, there are usually no quarrels. If there are no quarrels, there is no hate. If there is no hate, there are no wars."

PICTURES TO COLLECT

Now is a good time to begin collecting pictures to help you understand mountains. Cut pictures from newspapers and magazines and have a picture show. Bring from home or the library books which show mountain pictures. These cannot be cut out, but they may be displayed. Perhaps your teacher will help you make some pictures of mountains.

OUR VISIT TO GREECE

Now at last our airplane has set down at Athens. Mr. Kyrios would like to invite us all to his home, but there are too many of us for one house. He tells us, however, that he can find comfortable rooms for us near his home, and that his daughter, Anastasia, will visit us often. He wants us to visit her, too.

He signals to a city bus and we all get on. The bus driver looks at us curiously and then gives us a very broad smile. He starts the bus with a roar of the engine, and we go rolling along through wide streets. Mr. Kyrios explains that part of Athens is very old, and in that part we should see many narrow and crooked streets, too narrow and crooked for busses.

Some of the buildings are very beautiful. They look as if they were made of smooth white marble. Mr. Kyrios says that they are made of marble. Not far from the city there is a famous hill from which the marble is taken. Greece is very fortunate, he says, to have fine marble and other hard stone for building. The trees have long since been cut down in this country, so that not much timber is left. We shall not see many houses built of wood, such as we see at home. Clay for making bricks is also scarce in Greece. Mr. Kyrios says that most of the houses are built of stone.

By and by we come to a group of pleasant stone houses perched on the side of a hill. One of these is the home of our friend. Anastasia comes running out of the house to greet her father, and after her comes her mother.

In a very short time we are settled in comfortable rooms in one or another of the houses near the home of Mr. Kyrios. It seems good to live in a house again and to see people living much as we live at home. Now that we think of it, we have not seen homes anything like our own since we started on this journey. Mr. Kyrios tells us to rest well and says that he and Anastasia will come for us in the morning.

Farming in Greece

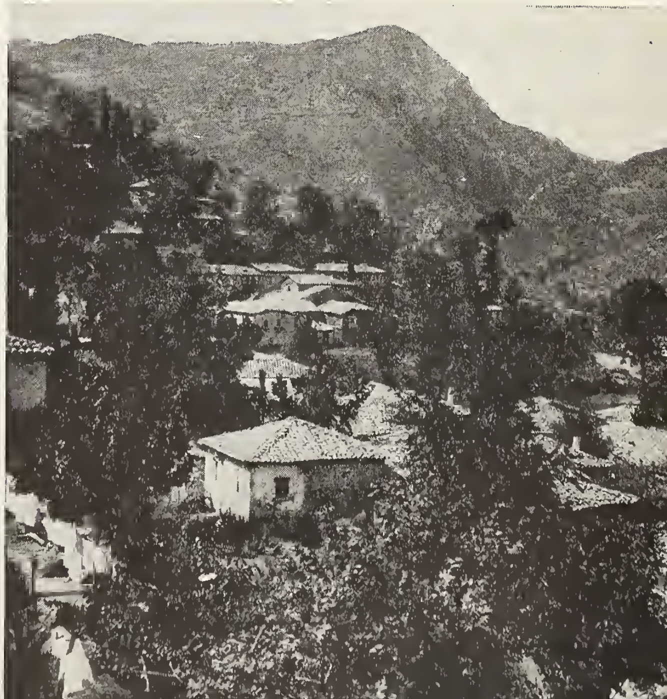
Now we are on our way to the country with Mr. Kyrios and Anastasia. We make this little trip in a bus. The bus rolls along smoothly over the streets of the city, but when we get to the country it gives us a different sort of ride. We go bouncing and bounding up hill and down, and around sharp curves. Now our road winds up a steep hill. Now it slants downhill so sharply that we are sure we shall all go tumbling out through the windows.

We notice that there are not many farmhouses, and we are told that the farmers live in villages and go out to their farms every day. The villages are set high on steep, rocky hills, as we see in the picture below. Thus the good land is saved for farming. We remember that the farmers of Egypt also live in villages to save more land for crops. But their lands are not hilly or stony.

Some of the hills here in Greece are used for pasture lands. In these we see many sheep grazing. Sheep are fairly good mountain climbers. They have long, narrow noses and can nibble the grass that grows between rocks. They eat the leaves of low plants that grow in rough, rocky places. On the other hand, few cattle are raised in Greece, and for this reason the people seldom have butter.

Level land in Greece must be saved for crops, so the houses are grouped in villages on the slopes.

James Sawders



By and by we see our first vineyard. We notice that the grapevines have been planted in rows as long as the hills will permit. Posts have been set up, and wires have been stretched between them. The picture below shows how the vines have been trained over the posts and wires. Mr. Kyrios says that in some parts of Greece there are miles and miles of vineyards, for grapes grow wonderfully well on the warm slopes of the hillsides.

The grapes are ripe, and we should like nothing better than to walk along between the rows and eat as we walk. Soon Anastasia tells us that we are to get off at the next stop. She points to a village atop a very high hill and says that up there lives the farmer who works on her father's farm.

We climb the hill on foot, for it is too rough and steep for the bus to climb. Anastasia is better at climbing hills than we are, and she runs ahead to tell the farmer's wife that we are coming.

The farmer's wife is surprised to see such a crowd of Canadian school children. Of course we can't understand what she says, but we can tell from her actions that she doesn't know what to think of so many visitors. Mr. Kyrios explains that we have come all the way from Canada and have been visiting different parts of the world.

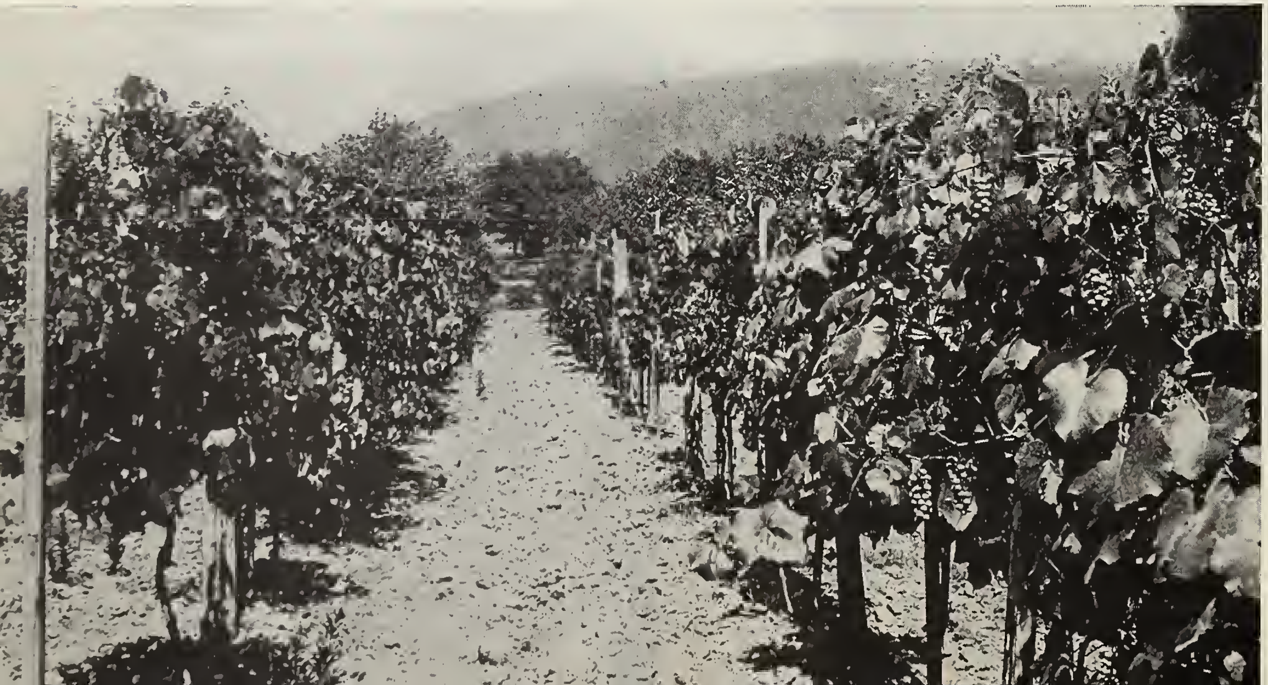
She understands about Canada because she has a brother who came to our country when he was a very young man, and has been there ever since. She has not seen him for many years and she wishes that we could tell her something about him. Mr. Kyrios tells her that Canada is a very large country, and he throws out his arms to show her how large. She laughs and nods her head. She knows that Canada is large—much larger than Greece—but she still wishes that we could tell her about her brother.

She asks Mr. Kyrios what she shall give us for lunch. He smiles and says in their language, "Much, much food!" Then we go out to the vineyard on Mr. Kyrios' farm.

Men and women are in the vineyard gathering grapes. They cut the clusters from the vines and put them into baskets that they carry along. When they have filled the baskets, they empty them into

A vineyard has row after row of grapevines. The grape leaves will be cut to let the grapes get the sunshine.

Century Photos



Burton Holmes from Ewing Galloway

Great barrels, heaped with ripe grapes, are taken to the wine press on the backs of the patient donkeys.

great buckets or barrels, such as those in the picture above. When the barrels are full, the little donkeys will carry them to the wine press, where the juice will be pressed out of the grapes.

Mr. Kyrios is delighted to see such a good grape crop. He tells us that we may help pick if we like. We do help, but not many of our clusters of grapes go into the baskets.

For lunch we have great slices of bread served with olive oil instead of butter. We dip the bread into the oil as the Greeks do. We also have several kinds of cheese made from goat's milk, and goat's milk to drink.

After lunch we sit in the shade of a tree on the hillside while Mr. Kyrios tells us more about the climate of Greece. It has seemed strange to us that so much fruit can be grown in a land that is dry many months of the year. We learn that not all fruits would do well here. Grapes do well because the vines have long roots that go deep into the soil. There they find all the moisture they need, because the long winter rains have left plenty of water in the ground.

Olives do well for the same reason. The hot, dry summers are just right for such fruits, since the sun ripens them quickly. Heavy summer rains would spoil olives and grapes. We remember that often the grapes on our vines at home have been spoiled by too many rains in the summer.

In the afternoon we go out to visit the olive groves. We have never seen olives except in bottles, so we are very eager to know how they look on trees. We find that they grow in clusters of three or more, and when they are ripe their color is dark, almost black. The leaves of the trees are grayish-green, smooth, and shiny. The bright sunshine gives the leaves a silvery appearance and makes the ripe olives glow like dark jewels. The olive tree is truly a beautiful thing.

Mr. Kyrios says that the people of Greece are grateful for the olive tree. It provides comforting shade on a hot summer day because its leaves grow so thickly. Its fruit supplies oil which is needed as food, and that is important in a land which has very little or no butter. With good care olive trees live to be very old. They have been known to live for as long as a thousand years. They grow gnarled as they grow old, yet, as we can see in the picture below, they are still beautiful. They are useful, too, even in great age. Often grapevines are planted so that they will twine among old olive trees, thus saving the work of putting up posts.

As we walk among the trees, Mr. Kyrios reaches up now and then to examine the fruit. He gives us some olives to taste. We do not care for them as they come from the trees. Mr. Kyrios says that few people in Greece eat olives. They save them all for the oil which they press out of them. They use the seeds, too, in a great many ways. For one thing, they put the crushed seeds around the trees to enrich the soil.

We learn, too, that olive groves are often used as pasture lands. During the winter the grass is thick and green, making fine pasture for sheep and goats. Now the grass is dry and brown because little rain has fallen for months. Still the sheep and the goats like the dry grass well enough, though cattle would not eat it.

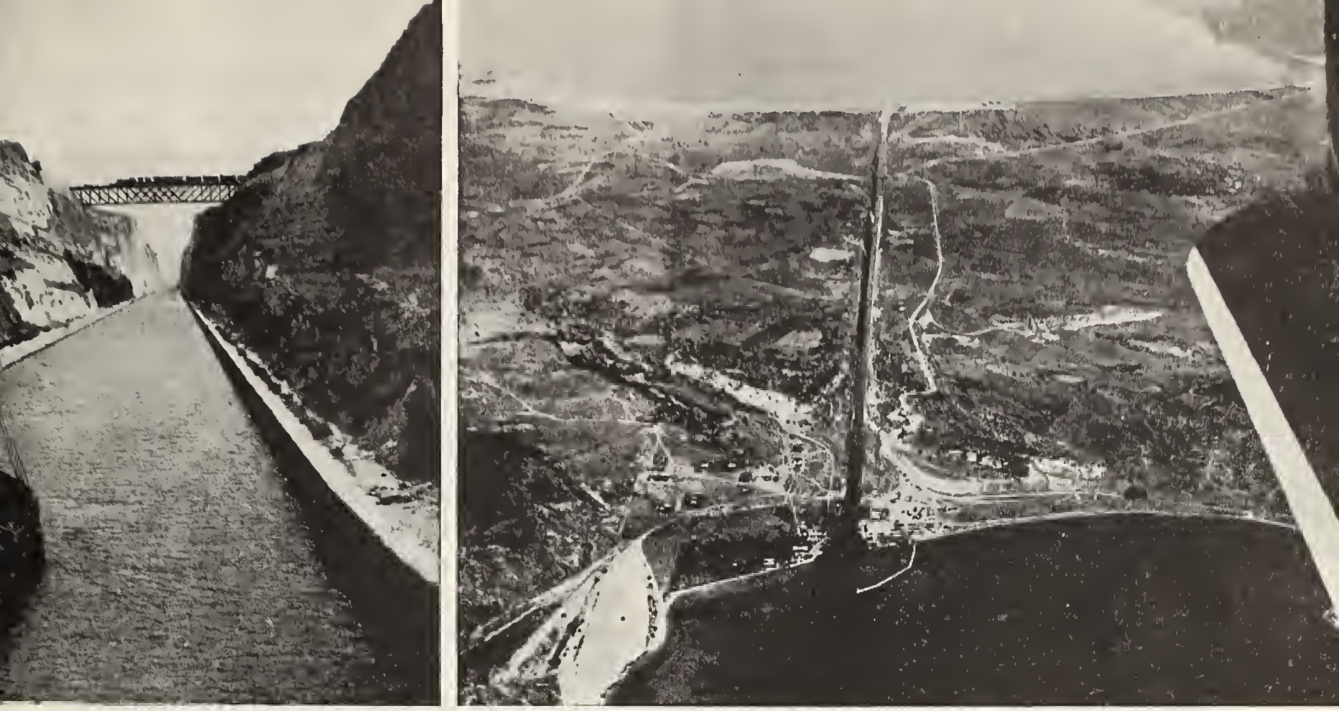
We have been so interested in the olive trees that we have forgotten about Anastasia. Mr. Kyrios calls to her and soon she comes over a hill with a lamb at her heels. As she runs toward us, the lamb skips along with her.

She tells us that the lamb has no mother. When it was only a little thing, its mother died. So Anastasia took it into the city and fed it on goat's milk until it was big enough to eat grass. The lamb has never forgotten her, and when she comes out to the farm it comes running to meet her and then follows her about. Mr. Kyrios says that Anastasia would like to be a shepherdess like her great-great-great-grandmother.

Goats are valuable animals in the mountains of Greece. They supply milk and cheese and meat as food. Their long hair is woven into cloth, and their hides are tanned into leather. They are

The olive tree furnishes fruit, shade, and beauty. Flocks of sheep are often pastured in the olive groves.

Three Lions



R. I. Nesmith and Associates

Bernd Lohse from Three Lions

The Corinth Canal cuts across the narrow Isthmus of Corinth. A railroad bridge now crosses the canal.

even better mountain climbers than sheep, so that often they can be pastured where sheep cannot be. Yet there are not so many goats as sheep raised in this country. Mr. Kyrios says that there are more sheep than people in Greece.

Now Anastasia asks her father a question which we do not understand, yet we know the answer is "yes." Then Mr. Kyrios says that tomorrow we shall all go to visit a currant vineyard.

SOME QUESTIONS TO ANSWER

Does your mother have olive oil in her kitchen? If so, in what different ways does she use it?

Does she have any other oils that are made from plants or fruits? If so, what are they? How are they used?

Have you ever eaten cheese made of goat's milk? If so, what kind of cheese was it?

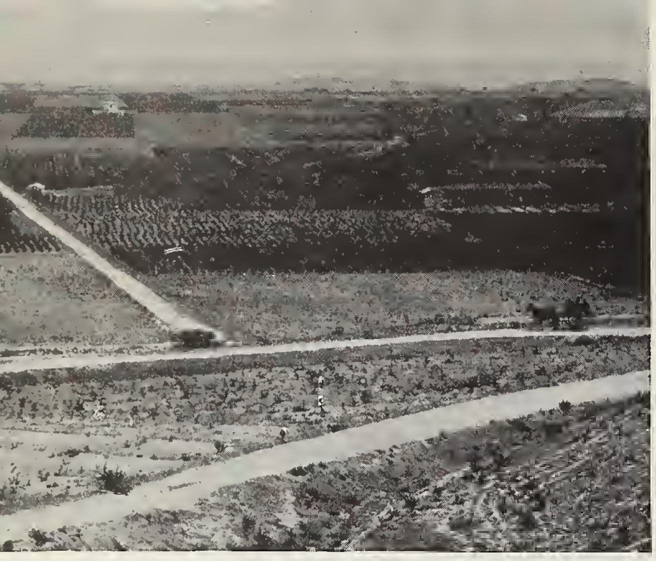
What different kinds of olives do you buy at the store? Perhaps a grocer near your school will help you understand how olives are put up. Name one or two of your class to find out about olives and how they are used and then make a report.

Currant Vineyards and Orange Groves

Over the hills we go again, this time westward from Athens toward the Isthmus of Corinth. The isthmus no longer joins north and south Greece, for a canal has been dug across that narrow neck of land. The pictures above show us this canal.

The Gulf of Corinth is an arm of the sea which helps divide north Greece from south Greece. Along the gulf shores are great currant vineyards, like those we see in the picture on page 78. Currants were named for Corinth. We notice how much alike the two words sound.

The currants we know at home do not grow on vines. They grow on bushes. Our currants are small red or yellow fruits, and when they are almost ripe they make excellent jelly. The currants of Greece are really small grapes. They grow on vines as grapes grow. When they are ripe, they are dried in the hot summer sunshine and are then packed and shipped to many other parts of the world.



R. I. Nesmith and Associates

Currant vineyards grow along the Gulf of Corinth. Greece leads the world in production of currants.

Anastasia tells us that everyone on the bus is talking about currants, for the picking season is not far off. Workers will come from other parts of Greece to help with the picking and drying and packing, for the crop is very important. A railroad in southern Greece is called the Currant Railroad, which shows how important the crop is. Greece, Anastasia says proudly, produces more currants than any other country in the world.

The raising of currants requires a great deal of hard work. In winter the vines have to be carefully pruned. The ground around the roots has to be well cultivated so that it will hold as much moisture from the winter rains as it possibly can. In the spring the vines have to be sprayed for protection against insects that would destroy the fruit. When the packing and shipping are done, the great wooden trays on which the currants are dried have to be scraped clean and stored away. All this work must be done, besides the work of picking.

On the way back to Athens, Anastasia signals the driver to stop, and we get off at a grove of beautiful trees near the roadside. To our delight we see that they are orange trees. Green fruit and ripe fruit hang on the branches, and here and there are waxy white blossoms. It is the way of the orange tree to do everything at once. It is a strange way, but a pleasant one. We buy some of the oranges and stand in the hot sunshine sucking out the sweet juice. Truly, we think, Greece is a land of fine fruits and kindly and friendly people.

The Granary of Greece

Back in the city again, we give Anastasia good practice in speaking English, for we have many questions to ask. She knows her country very well because she learns her lessons well at school. She answers all our questions proudly.

She tells us that not all the farms of Greece are like those we have seen. In a part called Thessaly, for example, much grain is raised. There the land is more level, as we see in the picture on page 79. Wheat, barley, and oats can be grown. The wheat is planted in the fall, as it is in some parts of our own country. It is harvested in midsummer. Other grains are planted in the early spring when the winter rains are over.

We learn that the fields are small compared to the fields on American farms. We would not see in Thessaly acres and acres of wheat or corn or cotton. The methods of farming are old-fashioned compared to our own. There are no tractors, of course. The farms are not large enough for such machinery to be used. There are not even steel plows. The plows are of wood and are drawn by oxen. When the grain is ripe, it is cut with scythes. The men in the picture on page 79 are using a kind of scythe called a cradle. The prongs above the knife catch the grain as it is cut. When the heads of grain are dry enough for threshing, they are spread on a stone floor. Oxen walk back and forth slowly, treading the grain from the straw.

Raffius from R. I. Nesmith and Associates

Grain is raised on the level lands of Thessaly. The hardy olive tree, so common to Greece, is found here too.

Hundreds of years ago Thessaly was called the granary of Greece. It still supplies a large part of the grain used by the Greek people.

Do all the lands that border the Mediterranean Sea have the same climate as Greece? That is another question Anastasia answers. Yes, all the lands have such a climate. In fact, the climate is so much the same along the sea that it is called the Mediterranean climate.

PICTURES FOR YOUR COLLECTION

Have you collected such pictures as were suggested on page 72? Before you have finished your journey through Greece, collect pictures showing farms and farm machinery in different parts of America. Plan to add them to your display. If you can also find pictures of farming in Greece, do so. Make a comparison of the pictures you have found.

Story of Ancient Greece

We have had a pleasant day roaming through the city of Athens with Anastasia and her mother as our guides. As we sit now in front of the home of our friends and look out over the hills, we have many questions about Greece.

"Certainly, you have questions about our country," Mr. Kyrios says when we have asked a dozen or more. "All people should ask questions about a strange land. Else how can they learn anything? You remember that I told you Anastasia's great-great-great-grandmother was a shepherdess. We shall have to go back much farther to answer your questions. I shall go back several thousand years and tell you in a very short story something of the history of Greece. You must try to fit what I tell you into the things you have seen." This is the story that Mr. Kyrios told us.

Once upon a time, thousands of years ago, very wise and civilized people lived in the land now called Greece and in near-by islands of the sea. These people had comfortable and beautiful homes. They enjoyed life whether they worked or played. They laughed and danced and sang and altogether lived very happily. Like the Egyptians of long ago, they worshiped a great many gods and goddesses. They built many beautiful temples to honor their gods.

Their happiness lasted for years and years. It might have lasted still longer except for the wars that they fought over one thing and another. They fought over very foolish things, as people have done since the world began.

Ewing Galloway

A seaport of Greece with a great fleet of trading vessels ready to carry goods all over the world.

After a great many of these wars, their beautiful homes and temples were destroyed. And their land, which once had produced fine fruits and grains, was laid waste. Many of the people were killed, and many people were driven out of the country. Those who remained were poor and weak. They wandered about, living however they might.

After many, many hundreds of years had passed, fierce tribes of shepherds came into this once beautiful land. They came from the north where it was much colder than it is here. They were pleased with the climate of this country. They liked the months of warm sunshine and the months of earth-soaking rain. They saw that the pastures grew green with good grass for their flocks.

They saw, too, that on the low hillsides were groves of olive trees and fig trees, and that higher on the slopes were forests of beech and oak. Grapevines twined over the olive trees and the fig trees. Flowers dotted the meadows and the woodlands. The shepherds decided to stay. In the years that followed, more such tribes came, each tribe settling down in the valleys or on the gentle slopes of the mountains.

By and by, as time went on, the shepherds began to plow the soil and to plant crops. Thus they became farmers. They taught their children to look after their flocks, so they were also shepherds.

They saw the need of planting all the land that would raise crops. In such a mountainous country as this, every bit of good ground must be used. So it came about that they began the custom of living in villages, so that they might plant more of the land. Some of these villages grew into cities. Athens, for example, grew from a tiny village. So also Sparta and Corinth grew. These cities began more than three thousand years ago, no one knows just when.

In the meantime some of the Greeks became sailors. Sometimes it is said that the mountains pushed the people into the sea. That is just an odd way of saying that because of the mountains there was not enough land for everyone to raise flocks or crops. For this reason many men turned to the sea to make a living for their families. In those olden days it was not difficult to build ships and boats because the country had plenty of forests which supplied timber.

At first the sailors sailed only from one bay to another along their own coast. Finally they became more daring and sailed away to other countries that bordered the Mediterranean Sea. Some of the sailors became traders. The picture on this page shows how their trade has grown. The Greeks had plenty of olive oil and wine, and people in other countries wanted these things. The Greeks did not have enough wheat and other grains, so they traded olive oil and wine for grain. They also bought fine silks from other countries.

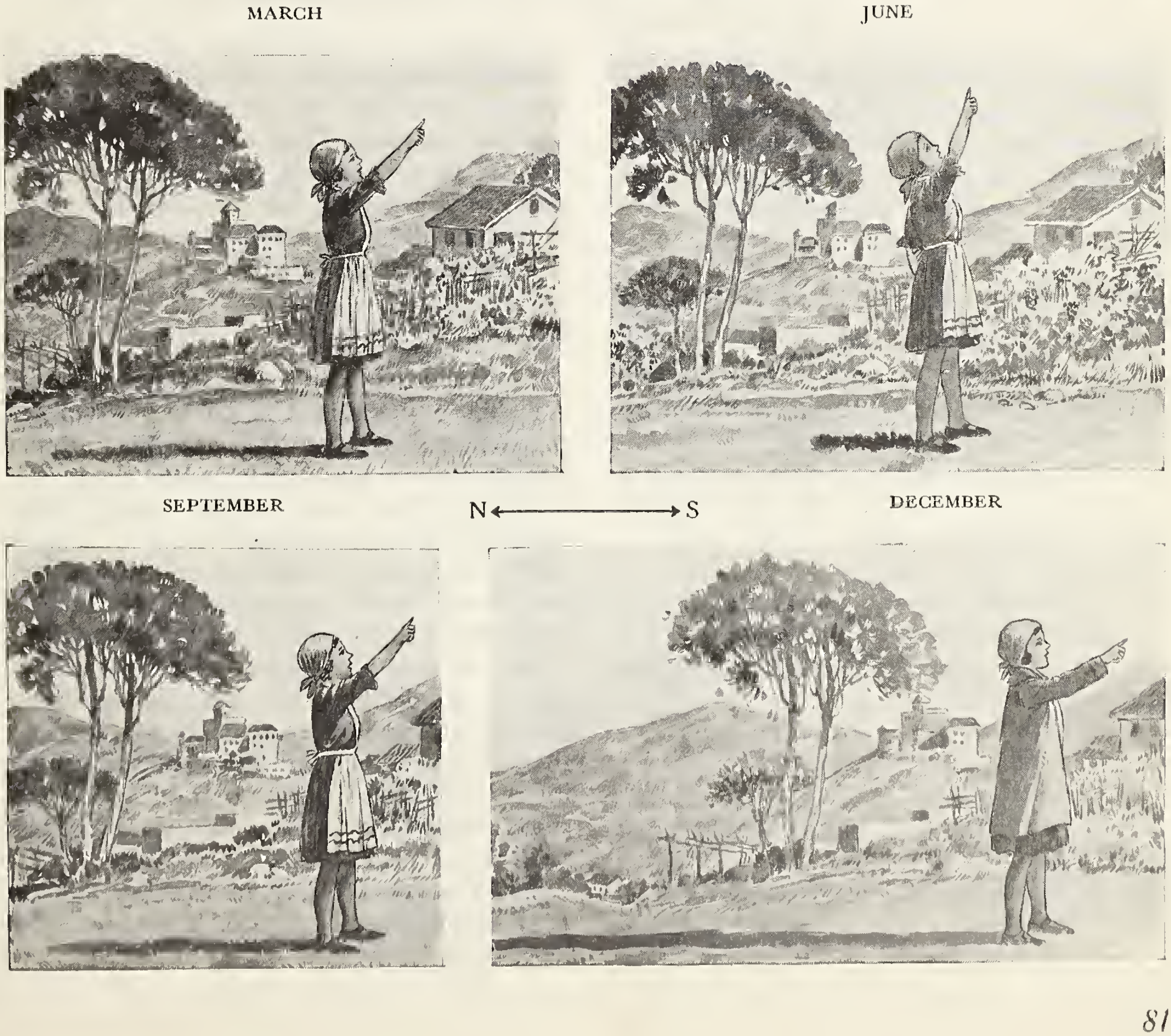
After many years the sea and the irregular coast line of Greece helped the people of other countries. But, better still, they helped the Greeks to get acquainted with one another. Most of the valleys opened out to the sea, so that it was easy for people to go by boat from one valley to another. In time the Greeks stopped fighting one another and united into one country, which they love deeply. It is an old saying among them that "mountains divide while the sea unites."

THE GEOGRAPHY WORKSHOP

THE NOONDAY SUN

The pictures on this page show you where the noonday sun is at different times of the year at Athens. Study them carefully, then compare the position of the sun at Athens with the position of the noonday sun where you live. Compare these positions also with the positions of the noonday sun at the Congo and the Amazon.

The noonday sun at Athens is never straight overhead, but in June it is nearly so.



MARCH

JUNE

SEPTEMBER

N ⟷ S

DECEMBER

USING THE GLOBE

Have you learned to use your schoolroom globe well? Do you use it often? Using the globe will help you to understand your place in the world and the places of other people as well.

Suppose now that you go to Greece from your own home instead of from Egypt. Trace your route by land and by sea to Greece. What bodies of water did you cross?

Trace your route also back to the Nile, back to the Congo, back to the Amazon. How many times did you cross the equator? Which city lies nearer the equator, Athens or Cairo?

A LETTER TO WRITE

Pretend that you are in Athens and have spent an afternoon with Anastasia. Write a letter to your mother telling her what you have seen. You may take as your subject the visits to the olive grove, to the vineyard, and to the Gulf of Corinth. If you have read in another book a story which would make an interesting letter, choose that. Write something that will be different from the letters written by your classmates. Check what you have written with the facts, so that you make no mistakes.

FIND THE RIGHT ENDINGS

There are three endings given for each sentence below. Only one of them is right and two are wrong. Be ready to read each sentence, using the right ending.

1. The body of water with the name that means "between lands" and is between Africa and Europe is the
    - *a.* Atlantic Ocean.
    - *b.* Mediterranean Sea.
    - *c.* Amazon River.
2. An arm of the sea extending into the land is called
    - *a.* a gulf or bay.
    - *b.* a delta.
    - *c.* an isthmus.
3. A narrow neck of land that joins two larger parts of land is called
    - *a.* a gulf or bay.
    - *b.* a delta.
    - *c.* an isthmus.
4. The narrow neck of land that joins the two parts of Greece is called
    - *a.* a harbor.
    - *b.* an island.
    - *c.* the Isthmus of Corinth.
5. The villages where the farmers live in Greece are
    - *a.* in the lowlands.
    - *b.* set high on steep, rocky hills.
    - *c.* near the sea.
6. Most of the hilly pasture lands in Greece are used for
    - *a.* sheep and goat grazing.
    - *b.* cattle grazing.
    - *c.* horse raising.
7. Two fruit crops that do well during the hot dry summers in Greece are
    - *a.* pears and peaches.
    - *b.* bananas and pineapples.
    - *c.* olives and grapes.

USING YOUR PICTURES

If you have collected some good pictures, arrange them on your bulletin board. You will do well to discuss plans before you put up your pictures. You might like to show the difference between our way of farming and the Greek way. Or you might want to show the difference between ancient Greece and the Greece you visited.

BOOKS TO READ

Once upon a time, several thousand years ago, there lived in Greece a very clever man named Aesop. He had been taken prisoner in war and was kept as a slave. He made up many short stories, called *fables*, each one of which taught a lesson. Nearly all the fables were about animals that talked and acted much as people talk and act, sometimes wisely, sometimes foolishly.

Ask at your library for *Aesop's Fables* and read some of them in your reading class. Perhaps your school readers contain some of these fables. When you have collected some interesting fables from Aesop and some good stories about the Greeks, plan an afternoon program at your school.

Read pages 113–146 in *Glimpses into the Long Ago* by Edna McGuire. They tell many interesting things about ancient Greece.

Philip Gendreau

A quiet countryside home in the Paris Basin. Many kinds of farming are carried on in most parts of France.

Living in Temperate Lands

A LAND THAT HAS EVERYTHING

On our last day in Greece we stood in a hillside vineyard near Athens, eating grapes. We could look out over the city to the mountains and the blue sea beyond. The sun was high in the sky, and fleecy white clouds rode over the mountains.

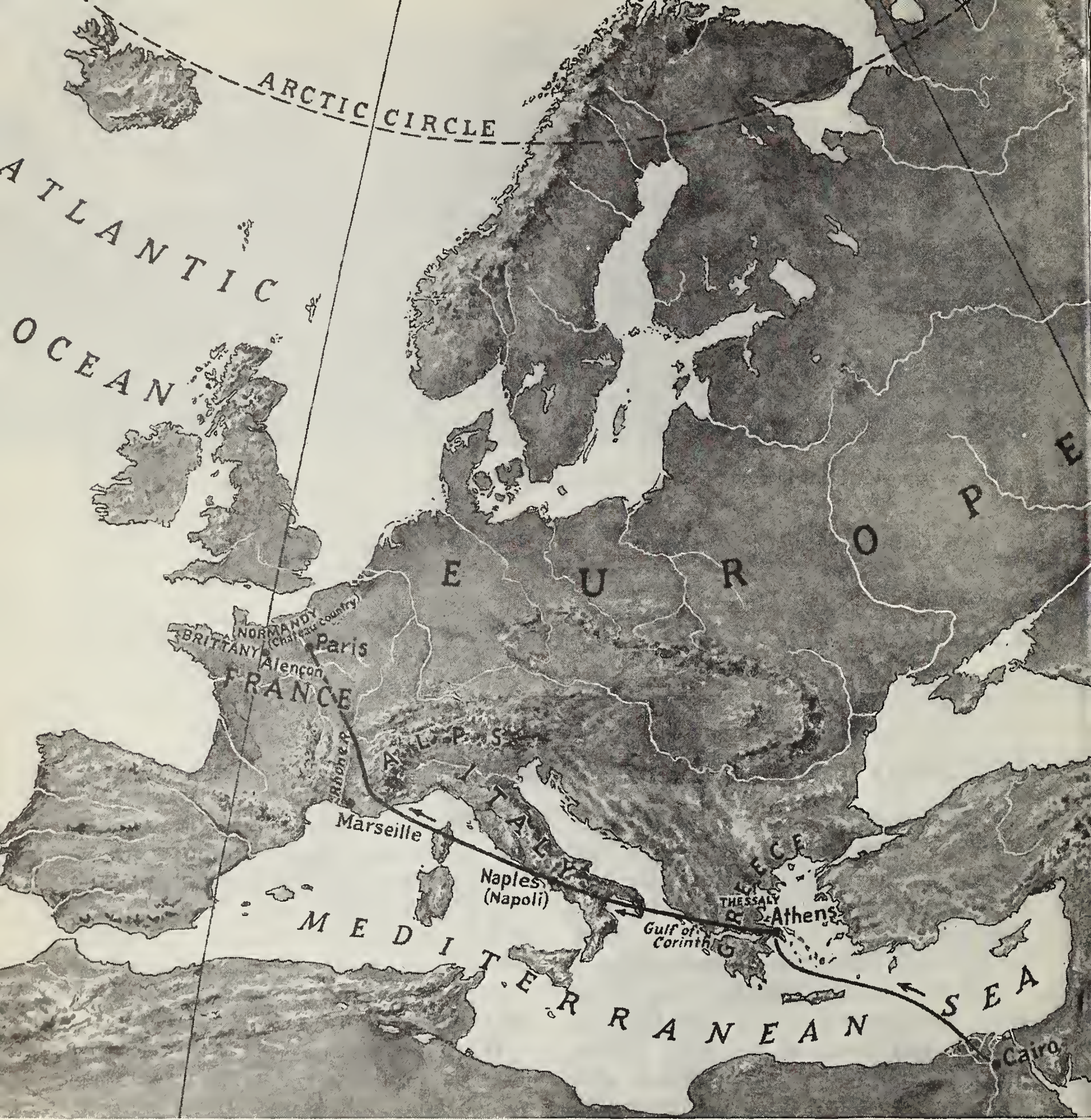
Clouds rode over the valley, too. These were not clouds of vapor like those in the sky, but clouds of fine dust. Everything in the valley was covered with dust, and dust lay thick on the roads. Greece was still having its dry season.

We should like to stay in this country until the rains come splashing down, washing everything clean and painting the hillsides green with fresh grass. But we have not yet been halfway around our great, beautiful world, so we must be on our way again.

We have come a long way on our journey around the world. We have found that all sorts of lands go to make up our world. There is the Amazon Valley, so hot and wet that things never stop growing. There is the African desert, so hot and dry that nothing will grow except in an oasis. Here in Greece it is very dry at one time, very wet at another. All these lands are lands of extremes.

When we start on our travels again, let us visit a land that isn't extreme. Which land shall it be? If we were to visit other lands on the Mediterranean, we should find a climate like that of Greece. If we were to go southward, we should come again to Africa.

Let's study the globe and find a land which is not one of extremes. Perhaps France is such a land. Pierre, our friend of the grass lands, told us that France is the very best country in the world, that it is a land which has everything.



A map of Europe and the Mediterranean Sea showing our trip from Athens to Paris.

MAKING THE GLOBE TELL A STORY

Before we study the globe, let us think about some of the facts we have learned.

The sun always shines almost directly upon the equator. The more direct the rays of the sun, the warmer the climate. The more slanting the rays, the cooler the climate.

On the globe trace with your finger our journey from Greece back to the Nile, up the Nile, through the desert and the grass lands back to the Congo. Cross the Atlantic and go back to the Amazon country. When you have done this, you will see that in Greece we are farther away from the equator than we have been at any time since we arrived in the Amazon Valley.

Now find the line north of the equator called the Tropic of Cancer. This line runs east-west around the globe. Find an east-west line south of the equator called the Tropic of Capricorn. Which of the lands we have visited lie between these two lines?

Darken the room, as you have done before, letting the only light come from a candle or flashlight or electric bulb. Let the light shine directly upon the equator. You see that the lands between the Tropic of Cancer and the Tropic of Capricorn get the most direct rays from your light.

It is so with the sun as it shines on the earth. The lands between the Tropic of Cancer and the Tropic of Capricorn get the direct rays of the sun. Such lands are said to have a *tropical* climate. They are hot lands. Some of them are hot and wet and some are hot and dry, but they are all hot.

Now look again at the globe and move your finger north from the Tropic of Cancer until you come to a line called the *Arctic Circle.* As you move away from the equator, the sun's rays grow more and more slanting, so they shine with less and less heat. All the lands between the Tropic of Cancer and the Arctic Circle are neither very hot nor very cold. They have what is called a *temperate* climate. Our own country has a temperate climate. Now find our country on the globe again and see why.

In the temperate lands there are four seasons: winter, spring, summer, and autumn. In winter the rays of the sun are more slanting than they are at any other time of the year. That is why winter is colder than any of the other seasons.

In Greece there are also four seasons. Yet people usually speak of the dry season and the rainy season. Because Greece is so near the Mediterranean Sea, much rain falls during the winter and spring.

If we were to visit the other lands near the Mediterranean, we should find that all of them have a climate like that of Greece. But if we were to go away from the sea, we should find a different climate. Let us visit France because it extends far away from the sea. France lies between the Tropic of Cancer and the Arctic Circle, so we may expect a temperate climate. Yet we shall find many differences between France and our country. How can we reach France from Greece? How can we get there quickly and easily? Why is going by plane the best way to make the trip?

GIVING YOURSELF PRACTICE

Find some of the lands which lie between the Tropic of Cancer and the Arctic Circle. Have you ever heard of any of these lands?

Find the Tropic of Capricorn again. Move your finger south until it touches a line marked "Antarctic Circle." The lands which lie between those lines also have a temperate climate. Name some of the lands.

Find the continent called Antarctica. What kind of climate does Antarctica have? How do you know? If you have ever heard of Admiral Byrd and his voyages to the South Pole region, tell what you have heard.

Find the land which lies between the Arctic Circle and the North Pole. What kind of climate does that land have?

Greece is a temperate land. The people live differently, however, from the people of our own land. Tell some of the differences.

BY AIRPLANE FROM GREECE TO FRANCE

We have decided to go to France by airplane. Now we are on a city bus and on our way to the airport. Mr. Kyrios and Anastasia have come with us to bid us good-by and wish us a safe journey. Anastasia has taught us to say a few words in her language. One of these words is *cheretai*, the Greek word for "good-by." The Greeks pronounce the word this way: kĕr′ĕ-tĕ.

Philip Gendreau

The city of Naples, built along the Bay of Naples. Across the bay Mount Vesuvius sends out a plume of smoke. Naples is located in a densely populated and highly productive region which is devoted to intensive farming.

Once again we take our seats in an airplane and fasten our seat belts securely. Once again we hear the whirring sound of the propeller. The plane speeds down the runway. A moment later we are in the air, waving to our friends and shouting, "Cheretai! Cheretai!"

Over Mediterranean Lands

Over the city of Athens we fly, over the Gulf of Corinth, and presently over the sea. After a time we see the coast line of Italy lying beneath us. We are flying low enough to see the countryside, and we can almost imagine that the plane has turned around and taken us back to Greece. White villages are perched on the rough, stony hillsides. Vineyards and olive groves cover the gentle slopes of the hills, and we can see men and women at work there. Children tend flocks of sheep and goats, and now and then we catch glimpses of oxen drawing low carts along narrow, winding roads.

We cannot see this pleasant picture very clearly because a cloud of dust hovers over the scene. Southern Italy, over which we are flying, must be as dry as Greece. We ask the stewardess of the airplane about this, and she says that southern Italy has a Mediterranean climate like that of Greece. We know what she means.

Very soon a great city lies spread out below us. We can see in the picture above that it is built along the edge of the bay, which lies so still and so blue. The city looks as if it were painted there. The buildings of the city look very white and clean in the sunlight. Behind them rises a great mountain.

"Naples!" we shout. This city must be Naples. We have studied the map and we know this. The stewardess says we are right. "But the Italians call it Napoli," she says, "and the bay is also called Napoli, taking its name from the city. We shall have a short stop here, and you may get out of the plane."

Now we hurry outside to look at Mount Vesuvius, which stands out very clearly against the blue of the sky. Its lower slopes are green with growing crops or dark with great forests. Smoke rises from the top of the mountain, curls, and swirls upward. Mount Vesuvius is a special kind of mountain called a *volcano*.

There is an opening in the top of Mount Vesuvius. This opening extends far down into the earth. The inside of the earth is very hot, and the opening in the volcano leads all the way down to the hot part. Now and then a great explosion, or *eruption*, occurs inside the volcano, and dust and ashes burst from the opening. The ashes enrich the soil around Mount Vesuvius. Down the road near the airport go cartloads of fine vegetables for Naples. These have been grown in the rich land near the volcano.

We board the plane once more. We shall not stop again until we reach Paris, the largest and most important city of France. Now we fly along the coast of Italy again and look down on more vineyards, olive groves, lemon and orange groves, and little white villages.

By and by great mountains rise ahead of us, their tops reaching into the clouds.

Even in the mountain country the narrow valleys provide enough fertile land for many small farms.

Ewing Galloway

Philip Gendreau

High peaks in the Alps between Italy and France. The streams are formed by melting ice and snow.

We are coming to the Alps, the highest mountains of central Europe. The mountains of Greece are low compared to the lofty peaks of the Alps.

Forests cover the lower slopes of the mountains, as we see in the picture at the left. The valleys between are green with grass or yellow with ripening grain. From the plane, the people at work in the fields look very small, and the sheep and the goats look like the toys that we buy in the dime store at home.

All at once the pictures disappear and we see nothing at all on the earth. We have passed into the clouds. The stewardess tells us that our plane has to climb up and up to get over the Alps. Higher and higher we go. When, by and by, there is a break in the clouds, we see mountains, like those in the picture above, so rugged and rough that nothing at all will grow on them.

Higher and higher and higher our plane climbs into the sky. Snow covers the peaks of the mountains around us.

We shiver a little at the sight of these great snow-covered peaks. They are so lofty, so grand, so magnificent! They make us feel very small, even in our great roaring airplane, small and just a little frightened.

Over Southern France

"So you are visiting France," the stewardess says, coming to sit near us. "Do you mind if I give you a piece of advice?" We don't mind, so she goes on, "If I were you, I would spend most of my time in the villages. There you will get a much better idea of how the French people live than you will in any great city. In the cities you will find that people live much as they do in your cities at home. Paris, for example, like all large cities, is full of hustle and bustle. There are not only a great many French people in Paris, but also many people from other parts of the world. You are not experienced enough to know the French people from the others. And, besides, in such a busy city you do not come to know anyone very well.

"If you want to know how people live in different parts of the world, visit those places where you will be able to live with them. It is too bad that this plane cannot set you down here, right in this land over which we are flying. Here you would soon get a very good idea of how the shepherds of France make their living in these magnificent hills. The shepherds are pleasant people to know. Of course, their part of the world is only a small part of France. But it is important to them and to the rest of France, too."

Then she tells us how she had once visited a village in the southeastern mountainous part of France, northeast of the city of Marseille, a village like the one in the picture on the opposite page. From the village she had gone deep into the mountains on a brave little donkey to the home of some of the shepherds. This is the story she told us.

Shepherds of France

It was the evening of a sunny day in the fall. The sun was already dropping behind the tallest of the mountains when two brave little donkeys clambered up the steep slopes that led to their stable. They were walking as fast as they could, for they were hungry. On one of the donkeys rode the stewardess of our plane. On the other rode Victor, youngest of the shepherds, and by his side walked his father.

The shepherds had been down to the village the stewardess was visiting. They had come to market the first of the chestnuts. The stewardess had asked if she might go home with them to stay in the mountains for the last of the chestnut gathering. Never at any other time of the year are the mountains so beautiful as when the chestnuts are ripening.

Victor and his father considered the matter. It was very pleasant to have company at their home, especially since they had this pleasure so rarely. Besides, the stewardess would be very exciting company. Did she not ride in the skies all over France, over Italy, over the sea, and over Greece, too? She would have marvelous stories to tell about the great planes that wing their way over the world. But how were they to take her up the steep mountain when they had only two donkeys?

After a great deal of planning and talking, they decided that Victor and his father should take turns riding one donkey and walking beside him. Then the stewardess might ride the other donkey all the way very comfortably. And so the trip was made.

When they came to the great gate that opened into the courtyard, the two don-

Relano Photo from Three Lions

Every family has a small herd of sheep and goats.

keys stood patiently while Victor's father unfastened the latch. Victor and the stewardess slipped out of the saddles and hurried into the warmth of the house, while the father went to the stable to see that the donkeys were cared for. Victor's mother welcomed the stewardess and listened to the tale of the homecoming. Then she hurried about to prepare supper.

The house was of stone, and it had stood on the mountain side for hundreds and hundreds of years. All the ground floor was a big kitchen—a great room with arched ceilings and thick walls of stone. All the furniture had been made by the men of the family, and almost everything was of wood. Even the kitchen utensils, all but a few cooking pots, were of wood.

There was an upstairs to the house, but the staircase was on the outside. It led to several big rooms where the family slept. There was also a room used as a storeroom for dried apples and figs and chestnuts and vegetables.

Around the house was a large yard with a high wall around it. Inside the yard grew little orange trees and fig trees and a few apple trees. Around these trees was the garden where in the summer there were rows of cabbages and lettuce and spinach and such, for the French people are very fond of salads.

On one side of the wall was a great oaken gate which opened on a path leading through some rugged old hills to the pasture land. It was toward this gate that the two donkeys trotted so eagerly, knowing it led to the stable.

In the pasture land were sheep and goats like the ones in the picture. Beyond the pasture land the forest stretched for miles and miles down the mountain side. Just at the edge of the forest was a sheepfold, a great square with high walls around it. And into this fold the sheep were driven each night.

On the gentle slopes of the mountains were olive groves and vineyards. Between the olive trees grew rows of potatoes and beans and turnips and pumpkins and melons. The shepherds have to raise nearly all their food, for they go to the village only when they have something to sell. Twice a year, perhaps, they drive their donkeys, loaded with wool and olives and dried chestnuts, down to the village. And they drive along with them the sheep they wish to sell, as we see in the picture on page 91.

Since they live so far from a town, they do not bother to try to dress as town people do. Instead, they make their clothes over exactly the same patterns which were used hundreds of years ago. The men wear short, loose trousers tied at the knees and laced down the legs with strips of bright linen. They wear gaily checked shirts and red sashes tied around their waists. On their heads are wide round hats. When the cold wind comes down from the mountains, they wear long shepherds' capes which come almost to the ground. The boys dress just like the grown men.

The women wear full woolen skirts, very tight waists, and aprons embroidered in the gayest of colors. Around their necks they wear big white kerchiefs. So big are these kerchiefs that they reach clear to the waist and are tucked in at the apron bands. On their heads the women wear snowy-white caps. When the cold wind comes down from the mountains, the women wrap big, warm, woolen shawls around themselves. Little girls dress just like their mothers.

Where do the people get all these things if they do not go to town often? They make them, of course. On the fields of the hillsides they grow flax, from which linen is spun and woven. They get wool from the backs of the sheep. They spin and weave, and from roots of berry bushes that grow in the mountains they make dye for the cloth they weave.

Once in a while, to be sure, they buy a ready-to-wear article of clothing in the village. But they seldom are pleased with such a purchase because they think the wool is not so fine or so well woven as that which they weave themselves.

Do these mountain shepherds get lonely so far from a town or a city? Not very, because during the day they are much too busy to be lonely. And at night they amuse themselves with beautiful music. With the radio? Oh, no, they make their own music, just as they make almost everything else they have. They make fifes and little flutes from the reeds which grow by the river. Now and then someone buys a musical instrument when he goes to the town in the valley. One instrument they like very much is the accordion.

There are no schools in the mountains of the shepherds. This is because the families live too far apart for a school to be practical. Mothers teach their little ones reading and writing, and fathers teach them how to count money carefully. The rest of their learning must come from the work they do, and from the city they visit now and again.

Ewing Galloway

People of the mountainous shepherd country drive their sheep for long distances to reach a market.

Sometimes a boy will be sent to the village for a winter of schooling, but this does not happen often. Sometimes a boy will go down to a city to do some other kind of work. And sometimes the boy will decide never to live among the shepherds again. Yet he will always think back with love to his home in the mountains.

When Victor's father came in from the stable, supper had been cooked in the big fireplace. There were boiled chestnuts and bread made from chestnut meal. There was cheese made of goat's milk. The dessert was a dish of apples and figs cooked together.

"There will be a splendid chestnut harvest," Victor's father said. "Tomorrow and the next day should see the end of the gathering." Victor looked at the stewardess, asking with his eyes if she would stay for the end of the harvest. The stewardess nodded yes.

Gathering chestnuts is hard work, stooping and picking, stooping and picking. Taking the brown nuts out of their prickly burs is hard work, too. Still, the shepherds make these tasks a pleasure by working together. And in the celebration which follows, everyone forgets the hard work.

Then the musical instruments are brought out, and everyone who can play an instrument takes turns at playing for the others to dance. They sing the old songs which have been sung in the hills for hundreds of years. Though these songs have never been printed in books, everyone knows them. They tell of the time when the wars in France drove some of the people into the mountains for safety. They stayed in the mountains. Their children stayed, too. Their children's children are still there, still living much as people lived in those very same mountains hundreds of years ago.

THINGS TO DO

Turn back to pages 55–56 and read again about the people of another country who spin and weave their own clothing. In what part of the world is this? What do these people use to make dyes? Read or ask questions about the following things:

1. How wool is taken from the back of a sheep.
2. How wool is taken to market.
3. How wool is made into yarn.
4. How yarn is woven into cloth.

Bring scraps of woolen and cotton cloth to school and compare them. Which is better for summer wear? Which for winter wear? Why?

If you have read any stories about other mountain people, perhaps your teacher will have you tell them in class.

THE PARIS BASIN

By the time the stewardess has finished telling us about the shepherds in these mountains of France, we have left the mountains behind us and are skimming over the Paris Basin.

The Paris Basin has small farms, pasture lands, and vineyards. From our place in the sky the small farms with their many vegetable plots remind us of huge patchwork quilts. Poultry yards are lively with ducks, chickens, and geese. Cattle and sheep graze in the meadows or through pleasant orchards. We have seen parts of our own country which look much like this basin, except that here the farms are smaller and there are few fences. Using land space for unnecessary fences is considered a waste. The roads are bordered with tall, stately shade trees or fruit trees.

We skim over many tiny villages nestled close to the earth. We go flying over cities bustling with business. These look like the cities at home.

A passenger tells us that nature has helped make the basin an excellent land for farming and business. The land is level, as we see in the picture on this page. The soil is deep and fertile. There is plenty of rain for crops because the winds which blow from the west over the Atlantic Ocean are loaded with moisture. These winds help to make the climate pleasantly cool, but not cold. It is easy to get the crops to market because there are many good roads to the cities. France, we are told, is a land of farmers.

"But it is also a land of people who work in factories, in mines, and in shops," the passenger says. "France, small as it is, has practically everything. That is why the people of France do not travel much. Why should they go to another land when they have so much at home? If they wish to go to the mountains, they may do so in their own country. If they wish to go to the ocean, they may do so without traveling far. If they wish to visit a country warm enough for palm trees to grow, where even the winters are mild, they have only to go to southern France.

"Why should they travel to another country to see the ocean when the wide Atlantic is right at their door? Why should they go far away to visit a country with a Mediterranean climate when they have only to go to southern France to find such a land? So you see why most Frenchmen stay in their own land, very contentedly. France has everything."

In an hour we come to the famous city of Paris and circle above it. The buildings are packed closely together, and none of them is so tall as those that we have in Montreal. Lofty church towers, such as we see in the picture at the right, rise above the rest of the buildings, and the Seine River winds its way through the city like a bright, silvery ribbon.

The streets divide the city into triangles and squares. Many of the streets lead to the river and across it. From our place in the sky Paris looks like a city of bridges.

What shall we do when we land at the airport? We had thought it would be fun to go sight-seeing in Paris, but now we are a little afraid to go all by ourselves. We remember, too, what the stewardess told us, that "the best way to know the people of any land is to live among them." We decide to go right away, or as soon as we can, to the village where Pierre's family lives.

Many times, while he drove us through the grass lands, Pierre had told us about France. He said he was a little homesick for his family and his village, and he knew his family was lonesome for

The great spire of Notre Dame Cathedral in Paris. Through the heart of the city flows the Seine.

Burton Holmes from Ewing Galloway

him. He thought it would be fine if we could visit his family. So now we hurry into the waiting room and up to a window marked "Information." We tell the man at the window about Pierre and give him the name of the village, which is Belle, not far from the city of Alençon. Can we reach the village today?

The information man says that we can, and he shows us the route on the map. He says that we shall have time to take a sight-seeing bus and ride through a part of Paris. The guide on the bus speaks English, so we can learn something about Paris even in a short time.

We thank the man and stop to look at the maps that hang on the walls. A map of France shows that the mountains are both rugged and high, yet we could not have known how high without crossing them. Not far from Marseille we find the lower mountains where the shepherds live. We look at the Paris Basin and see that the rivers flow north and west, so we know which way the land slopes.

THINGS TO DO

On the globe find Montreal in your own country. Find the line nearest Montreal that runs around the globe east and west. Follow it around the globe. Does Paris lie farther away from the equator than Montreal?

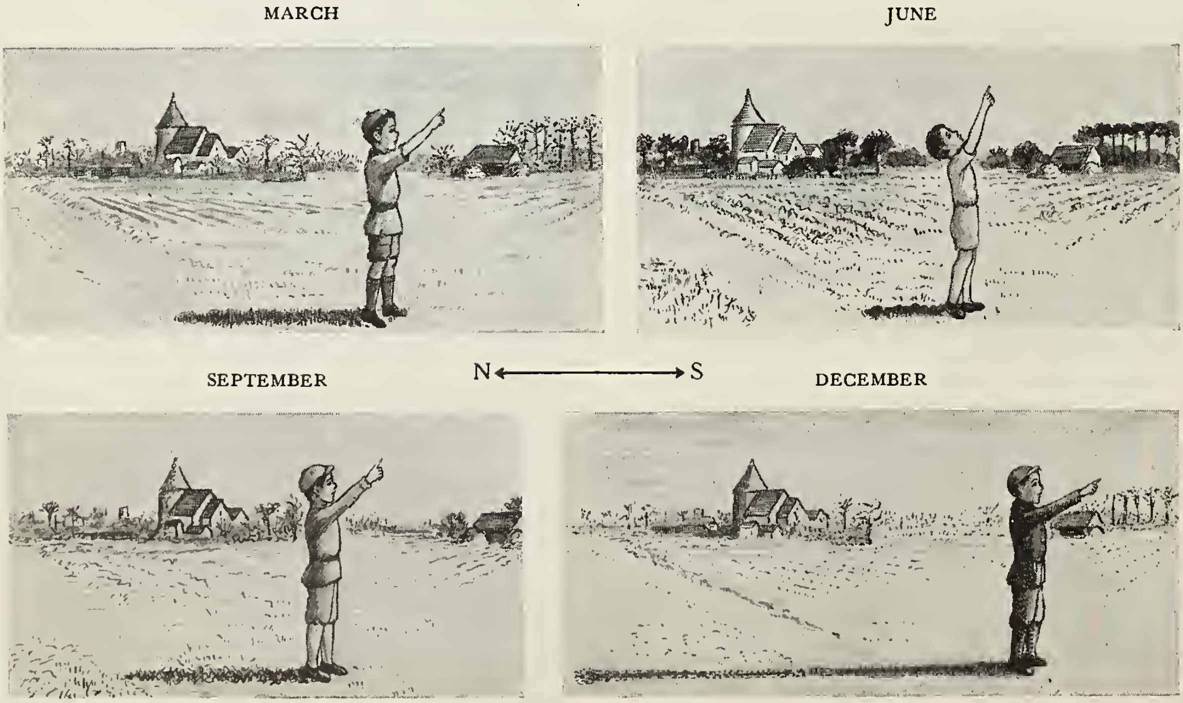
Find other large cities in your own country, and see whether Paris lies north of them or south of them. Is your own home north or south of Paris? Are you surprised to find Paris as far north as it is?

Now look at the pictures below of the boy pointing to the noonday sun. Turn back and look at the boy who lives near Halifax. Where does he point to the noonday sun? Where would you point to the noonday sun? Where would a boy in the Amazon Valley point? If you have forgotten the direction, turn back to pages 34 and 35 and study the pictures again.

Sight-seeing in Paris

Away we go on the sight-seeing bus! As we roll along over the smooth streets, like the one in the top picture on page 95, the guide gives us a very fine lecture.

French boy pointing to the noonday sun near Paris, France.



Schall from Pix Publishing, Inc.

Place de la Concorde—the central square of Paris.

His English is quite as good as ours—perhaps better.

Our guide explains that an island in the Seine River is the old part of Paris. This part was built more than two thousand years ago. At first, of course, the city of Paris was only a little village. It grew larger and larger until it spread out across the river and on the banks on both sides.

Why did it grow? The village was in the midst of a very fine farming country where the soil and the climate are just right for growing good crops. Farmers came to the village to sell their crops. Shepherds came down from the hills to sell their sheep. A town that has a good trade is bound to grow.

The force of the river was strong enough to turn wheels of mills and factories. A town that has factories and mills is bound to grow. As Paris grew larger, more roads were built around it and near it so that farmers might market their crops more easily. Roads led to near-by towns which also were growing. By and by railroads were built. Canals were dug so that waterways from one place to another might be used. The picture at the right shows this. The city grew and grew and spread out around the little island village which had been the beginning of Paris.

"If only we had lots of money to spend!" We can't help saying this over and over as we ride through the shopping district. The windows of the shops are the loveliest we ever have seen. Some of them show ornaments of gold and silver studded with jewels that glitter and sparkle in the sunlight. Some show silks and satins, smooth and shining and fine to touch—if we could touch them. Some show beautiful dresses and furs and wraps, for Paris is a city of elegant fashions. Some show fine furniture. And in some we see dishes of china and glass so thin and so delicate that we should never be allowed to use them if we had them at home.

But we have no money to spend. All we can do is to look at the beautiful things. Yet it will be pleasant to remember them when our journey is over.

A tugboat towing heavy canal boats up the Seine. The river is part of the canal system of France.

Philip Gendreau

Ewing Galloway

Wheat fields bordered by groves of forest trees. Scenes like this one are a common sight in the Paris Basin.

COLLECTING PICTURES

Begin now to collect pictures of cities in your own country. Find those which show stores, factories, churches, parks. Collect also pictures of cities in faraway lands, especially France. Save your pictures for a show.

In Pierre's Village

Now we are seated in a bus much like those used in our own country for taking passengers from one town to another. We are on our way to the village where Pierre's family lives.

There are not nearly so many automobiles in the streets as there are in the big cities at home. But there are more bicycles than we ever have seen before. Men ride them to work, women to shop, children to go on errands as well as for fun. At a street crossing near a factory our bus has to stop and wait for hundreds of bicycles to pass.

The countryside, as you see in the pictures above and on page 83, looks much like that which we saw on our airplane trip, for we are still in the Paris Basin. The cities look much like American cities, except that many of the buildings are older. But there are fine modern shops, hotels, theaters, and schools. The people we see on the streets dress like the people at home.

By and by we come to the city of Alençon. Night will soon be coming on, and we still have to go on to the village where Pierre's family lives. Can we get there before dark? There will be a long twilight, for we are far away from the land where night comes on suddenly.

At last we come to the village. We walk slowly along, wondering how to find Pierre's family. The houses do not face the street as they do in our towns at home. We cannot see any doors. How can we knock at a door when there is no door to knock on?

We see that there are many stone archways in the villages, and that each archway leads to a house. Very timidly we enter one of these archways, and there, facing a farmyard, is a door. The houses are all mixed up with the barns and the sheds where farm animals are kept!

We knock at the door. A woman appears and looks at us with curiosity as if she had never before seen such a sight! We ask her about Pierre le Grand's family, and she points down the street, holding up four fingers as she does so. From that we guess that the Le Grand home is through the fourth archway. So we hurry down the street and through the fourth archway.

Pierre's mother answers our knock. She looks at us and then throws up her hands and exclaims, "Les enfants canadiens!" She means, "The Canadian children." Pierre has evidently written to her about us, as he said he would. She calls her daughter, Marie, who speaks English as well as we do.

Very soon we are sitting cozily in the big kitchen, chief room of the French village home. What a cheerful and pleasant place it is! The windows are full of blooming plants. Hams and sides of bacon hang from the roof, with strings of dried apples. The large fireplace takes up one side of the room, and pots and kettles swing over a low fire. From them comes a delicious odor, for supper is being prepared.

The room is soon full of noisy chatter as we answer Marie's questions about Pierre and she tells her mother, as fast as she can, what we have said. When Marie repeats Pierre's lecture on the camel, the room runs over with laughter. "That droll Pierre! Never would he learn to love a camel," Marie says.

By and by the evening meal is ready. We have been wondering if there will be food enough for all of us, for we are very hungry. Strangely enough, there is plenty for all. We have rabbit stew and vegetables and a big bowl of lettuce dressed with lemon juice and olive oil. The bread is cut from a very long loaf with a very hard crust. We spread the thick slices thickly with butter. There is plenty of milk to drink.

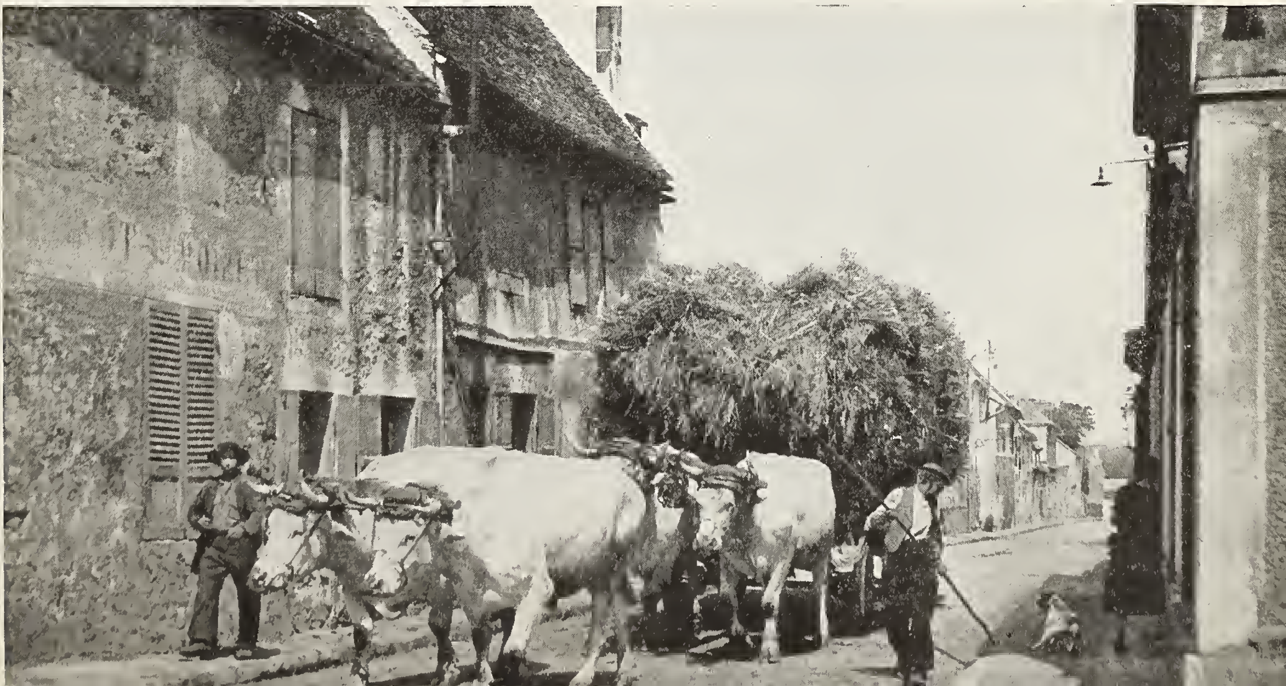
Sleeping rooms are found for us in the village. Some of the beds are like big cupboards built in the walls, and all of the beds have big, soft, puffy feather mattresses.

The next morning we are up bright and early. Marie is already feeding the chickens, and her mother is milking the cows. When the chickens are cared for, we go with Marie to feed the rabbits in the hutches at one side of the farmyard. Rabbits are very important to the farmers of France. They can be raised at little cost, for they eat the tops of vegetables and plants which would otherwise be thrown away. Marie carries baskets of vegetable tops to the rabbits and then goes to cut grass for them. We help with this pleasant task. Then we watch the rabbits nibbling their food, twitching and wrinkling their short little noses as they nibble.

Now the father has harnessed the oxen, like those in the picture below, and he joins other farmers with carts. The big, heavy wheels of the carts go clattering,

Some farmers of the Paris Basin. Nets are tied over the oxen's mouths to prevent them from eating the crops.

Ewing Galloway



Philip Gendreau

Grove of forest trees in the Paris Basin. The cattle are tied and can graze only at the edge of the field.

clattering over the cobblestones of the streets. Soon the women and girls come to join the men, for they, too, work in the fields. Some of them are driving the cows to the pasture, such as you see in the picture above, and some are taking the sheep. There is a tremendous din of talk, of laughter, of clattering wheels, of cattle lowing, of sheep bleating, and of American children all talking at once.

Not far from the field where Marie helps her father is a small forest, like the one you see in the picture on this page. When her work is done for the morning, Marie takes us into this forest. Here are beech, oak, chestnut, and elm trees, and others we have seen at home. The woodland is kept very clean. There are no twigs, chips, or rotting logs on the ground. These are all gathered carefully to be used as fuel. In France fuel is scarce and is not wasted as it is in our own country.

"A tree must earn its own living," Marie tells us. "There was a time, long, long ago, when France was covered with forest trees. Many things happened to use up those splendid forests. Shipbuilding for one thing and home building for another. But the terrible wars which were fought through many long years did more than anything else to destroy the forests of France.

"After a time the people saw that something had to be done to keep the forests they had, and to replace some that had been destroyed. So they began planting groves of trees, and they have kept up the planting year after year. A tree is never cut down until it has reached the proper age and size for cutting. For every tree cut down another is planted. So now one-sixth of the land of France is in forests. Here we do not even use much lumber for building. Most of our homes are of brick or of stone."

SOME QUESTIONS TO ANSWER

1. Of what materials are most of the houses in your town or neighborhood built?
2. Are there any forests near your home? If so, compare the woodlands near your home with those you have read of in France. If not, compare any woodlands you have seen with those you have read of in France.
3. Why do we have Arbor Day in our country?
4. How can you help to save the forests of our country?
5. How is fuel wasted? Do you ever waste fuel? How?

One day we asked Marie about the fairy-tale land of France. Pierre had told us about this land, and we could not be sure whether he was joking or not. Pierre liked to make jokes.

"To be sure," Marie said quickly, "Pierre was in earnest when he told you about the fairy-tale land. Indeed, there is such a place, though he did not give you the right name for it. The right name is the 'château country.' In France a castle is called a château.

"Many, many years ago, hundreds of years ago, most of the land of France was owned by rich people. The farmers who did all the hard work of raising the crops and caring for the animals did not own any land. They only worked on it. The rich people lived in grand style in their beautiful châteaus and did nothing. Some of the châteaus were fortresses as well as homes, for there were a great many wars in those days. The fortresses were so strong that they were fairly safe places even in war.

"Many of these ancient châteaus are still standing here and there in France. But most of them are west of here on the way to the ocean. Some of them are in ruins. Some of them are used as museums. A few are still owned by very rich people. But now the farmers in France own their own lands, and they are happier so."

Land of Fairy-Tale Castles

"May we see a château?" we asked.

Marie nodded her head briskly. "By good fortune," she said, "Tante Marie (you would say 'Aunt Marie') is a caretaker at a château. I was named for her, and I am her favorite niece. I will send you to her by a bus which goes right to the door. She will take you all through the château. She is very proud of being a caretaker, though she gets a little lonely sometimes, because the people who own the château do not stay there much."

So our trip was arranged for us by our kind little friend.

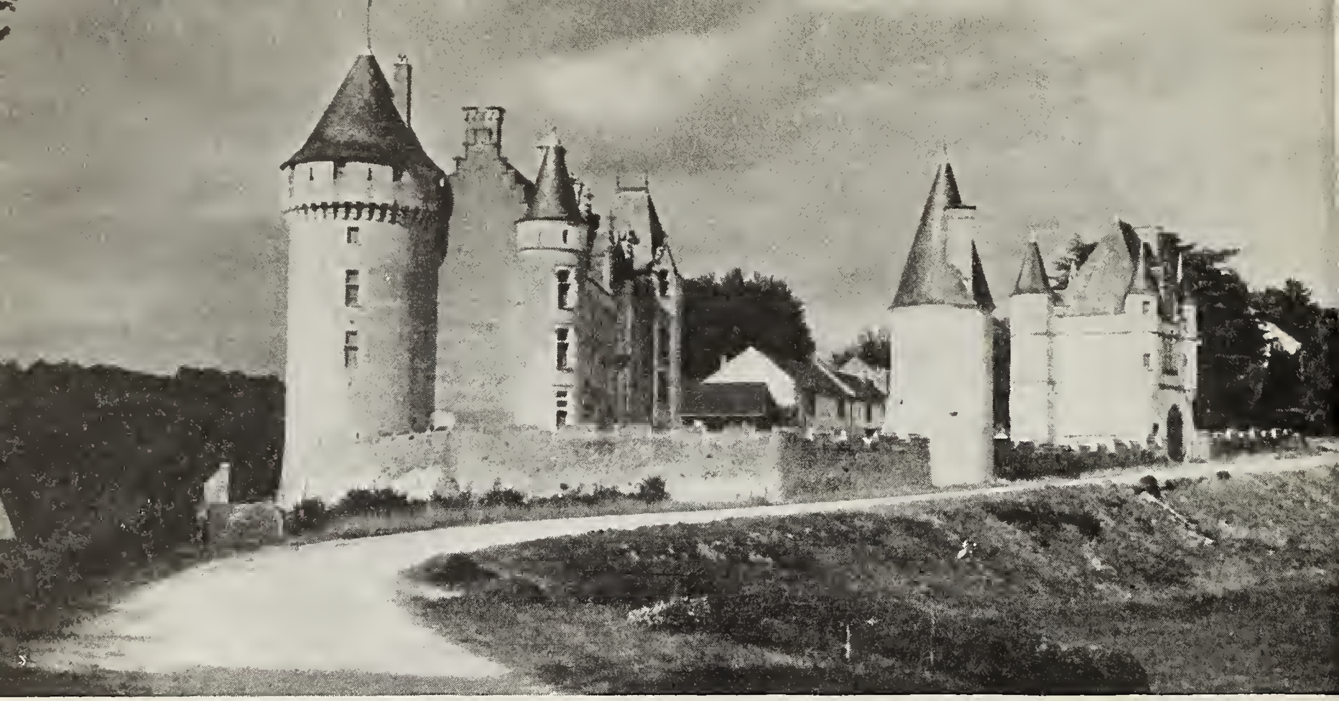
And now we say many thanks to the Le Grand family for all their kindness to us, and we wave good-by as the bus bumps over the cobbled streets. Presently we roll over smooth, tree-bordered roads, like the one in the picture below. After several hours the bus driver stops at an immense building. It is a very old, gloomy building standing among tall trees behind a high wall of stone.

"Here you are!" shouts the driver. "Are you expected?" He looks very doubtful about our being expected.

Then he drives on, while we stand and look at the dark old château, like the one in the picture on page 100. A feeling of fear comes over us. We wish that we had asked the driver again if he was sure, really sure, that this is the right place. It doesn't look at all as if we were expected, and it surely does not look very friendly either.

Beautiful entrance to the Château of Chenonceaux.

De Cou from Ewing Galloway



©Screen Traveler from Gendreau

Grim and cold the strong and sturdy Château of Montpoupon lords it over the surrounding hills and valleys.

It is built of enormous stones which the years have made very dark. Its towers reach high toward the sky. Its windows are closed even on this warm summer day, and its blinds are drawn.

We push open the thick, heavy gate and go down a long, stony path and up a great many wide steps and knock at a door, a very unfriendly door. It is banded with iron as if it wanted to keep everyone, especially school children from America, carefully shut outside.

No one answers our knock. Perhaps nobody heard us. No one is in sight. Everything is so quiet that we can hear our hearts thumping. We remember the "Sleeping Beauty." Is this perhaps the castle where the princess lies sleeping?

We walk down the steps, around to the side of the château, down some more steps. Here is a much smaller door, a friendly door painted bright blue. Roses and pansies bloom around the door, and in the window near by are bright-colored geraniums. Before we even have time to knock, this door opens quickly and Tante Marie appears. Her face is wrinkled with smiles and her snowy-white cap bobs up and down as she welcomes us.

"That Pierre!" she cries in very peculiar English. "He said he was sending me some American visitors, and I did not know whether he was joking or not until I heard from my namesake, Marie. But where are my manners? Here you stand on my doorstep. Come in! Come in! Are you hungry? But of course all children are hungry."

We eat lunch in a big, cheerful kitchen with a very large fireplace. It is so large, indeed, that an ox could be roasted inside it. And then we go with Tante Marie through the great, gloomy castle. Up many stone steps her tiny feet go clackety-clack and we follow after her. We enter an enormous dining room. The walls of this room are covered with fine silks, and all around hang beautiful portraits of people who have owned the château at one time or another. We follow Tante Marie almost on tiptoe from one splendid room to another, and then we go up a long, winding stairway to the second floor of the château. Here are the magnificent bedrooms, each one finer than the one before, each one silent and still. But not in one of them does a princess lie sleeping.

At last we follow Tante Marie into a room which is finer than all the others. The walls are painted with beautiful pictures of flowers and birds, of blue sky and fleecy white clouds. Tante Marie reaches out and presses one of the flowers ever so lightly. A panel in the wall slides noiselessly back, and behind it is another room, a tiny bit of a room.

"Why?" we all ask at once.

"It is a secret room. Nearly all châteaus have such a room. It was a good place to hide in," says Tante Marie. She touches another painted flower ever so lightly. A smaller panel slides silently back, and there is a cupboard.

"Why?" we all ask at once.

"It is a secret cupboard. Money and jewels were hidden here in the old days," says Tante Marie. But now the cupboard is bare.

Back in the big, friendly kitchen Tante Marie tells us some old fairy tales.

A READING PROGRAM

Find a story about a castle or a château to read to the class. It may be a true story, a might-be-true story, or a fairy tale. Prepare to read or tell your story to the rest of the class. Plan an afternoon or two of reading such stories.

In Brittany

People will never believe, when we tell them, that things have happened as fortunately for us as they have. But they really have happened so.

We have had a glimpse of Paris and of several other large cities as we rode through them on the bus. We have visited a farm in the Paris Basin, we have stayed all night in a splendid château where we slept in wide, beautiful hand-painted beds.

Now in the early morning we stand again at the big gate, waiting for a bus which will take us into another interesting part of France. The château does not look gloomy now but friendly, like Tante Marie.

The bus comes along presently and the driver calls out, "Bonjour!" which is the French way of saying "Good day!" He wants to know where we are going, and we tell him that we are going straight to the part of France called Brittany. We are going to visit the fishermen. He says we shall have a long ride.

On and on rolls the bus. We see many other very large and splendid châteaus, for we are going right through the château country. On we go through villages, through towns, through cities. The cities are bustling with business, like our cities at home. They look much like our own cities. But the villages are not like our villages at all.

As we go westward, the country becomes hilly and rough. We are out of the basin and in the uplands. Instead of fine vegetables, we see fields of grain and potatoes.

By late afternoon we have come to the sea. We pass through the city shown on page 102, but we do not stop. A spanking wind greets us when we get out of the bus at last in the little fishing village we have come to visit. The streets are cobbled with stones worn smooth with much use. When we look to the south, there is the sea. When we look to the west, there is the sea again. What is this land we are on? It is not an island, because east of us is land, the land over which we have come.

We are on a *peninsula*. It is a body of land which extends out into the sea as the land in the picture does. Since the sea comes well around the peninsula,

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The rough, rugged coast of Brittany. High walls protect the lower part of the town from the stormy Atlantic.

it is a splendid place for fishing. We find that most of the men of the village make their living by fishing. We see them busy with their fishing boats in the pictures on page 103.

Tante Marie had told us what to do when we came to the village. First, we were to find a tiny inn, which she described, where we should be very comfortable. From there we might go about the village as we pleased. "Follow your noses," Tante Marie had said.

We follow our noses and walk down the street which has the greatest number of flowers, though all the streets are blooming with flowers. The archways which lead to the houses, the doorways, the window sills are all gay with flowers. Even the roofs of some of the houses are abloom, as if flowers had been dropped down from the sky. Really, though, there are flowerpots set along the eaves and boxes on the roofs all gay with bright blossoms. And there, near the end of the street, is the inn.

Like all the houses of the village, our tiny hotel is of stone. Its walls are very thick, its doors very heavy. Over the wide fireplaces are many pretty plates and dishes. Some of them are shaped like fish, others are decorated with lobsters and fish. The people of the village make pottery during the cold months when fishing is not good.

Down the street with a clickety-click of their hoofs and a tinkle of bells come the sheep and the cows from the pastures on the hillsides. We hear the cackle of hens, the quacking of ducks, the hissing of geese. Each family keeps a few animals, a few fowls. Clatter! Clatter! The children are coming from school, and their wooden shoes, or sabots, make a much louder noise on the cobblestones than the hoofs of the animals.

Now come the fishermen wearing dark jerseys, striped with gay colors, and round, flat hats called berets. Some of them carry great baskets of fish atop their flat hats, some carry large nets.

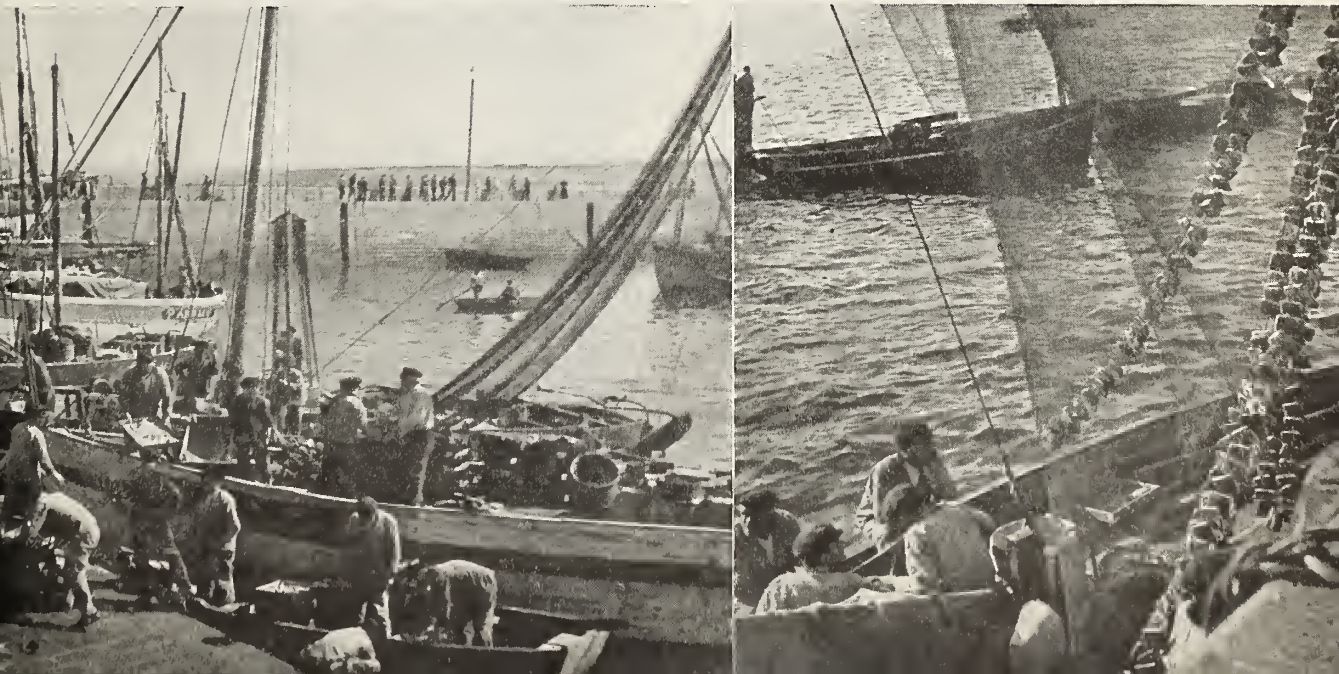
What kind of fish are in the baskets? Sardines, perhaps, like those in the picture on page 104. This coast is famous for sardines. From June to December the fishermen catch thousands and thousands of these tiny, silvery fish in their nets. Then the village people are very busy packing them in cans in olive oil or vegetable oil or mustard. Perhaps we have eaten at home sardines which came from this very same village.

Some fishermen set traps for lobsters and crabs. Some go far out to sea for tunny, a kind of mackerel.

But not all the men of Brittany are fishermen. Some of them are sailors who sail into the misty distances of the wide blue Atlantic Ocean to harbors far, far away. Some of them go as far as the shores of our own country, or even

Sails, nets, fishermen, fish—these four things represent the chief interests of the busy people of Brittany.

Rapho-Guillumette Pictures



Schall from Pix Publishing, Inc.

Sardines ready for the cannery where they are to be preserved in hot oil and packed in tin cans.

farther. As we watch them, we can't help wondering if they may sail for America soon. Shall we go with them?

Here with a bumpety-bump over the cobblestones comes a tiny cart with two wheels drawn by a fierce-looking old goat. By his side clatters a little girl in gay dress. Her skirt of blue is very full, very long, and her waist is of bright red. An apron of another shade of bright blue covers most of her dress. On her head is an odd little cap, white as snow. Her mother, who follows close at her heels, wears the same kind of dress. Most of the women of the village dress in this manner. Now and then we see a woman in a sweater and skirt, or a suit, but not often.

The next morning we see a curious sight. All the women of the village are doing their washing in the village *lavoir*, which is the French name for the place where the women meet to do their washing. They dip their clothes into the water, pound them on the rocks, and dip them into the water again, until they are clean. Their caps bob up and down in time to their work, and they talk and laugh as they dip and pound.

One day we make friends with a sea captain who is too old to go out to sea. He speaks English and several other languages as well. He is glad of our company as he sits by the sea, carving figures of wood.

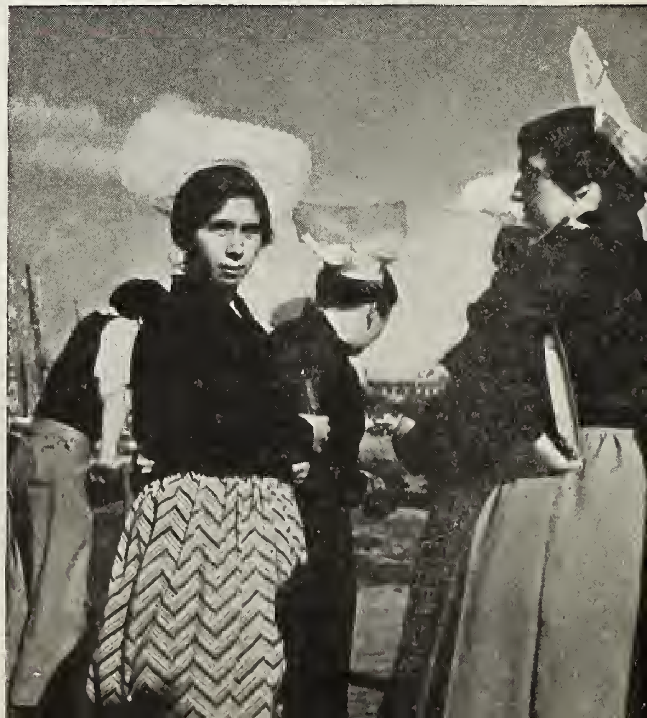
"This is all I am good for now," he says, chuckling, "this wood carving and the strawberry picking in spring. The sea is much too rough for an old fellow like me."

We ask him about the village, and he tells us that it has been here for hundreds of years. The inn at which we are staying was here when Columbus discovered America. People have been doing the same things in this village for ever so long. They have been making their clothes over the same patterns for hundreds of years. There are some who have changed to a different kind of dress. But, as we see in the picture below, they put on the dress of the village for special occasions, such as holidays.

The captain tells us about the delicious strawberries that are raised here. He tells us of the fine lace that the women

Sturdy women of Brittany wearing village costume. Each village has its own distinct style of coif or cap.

Rapho-Guillumette



make. They also plait bags and baskets of straw. The men do beautiful wood carving, and both men and women make fine pottery. Perhaps some of the things we have seen in our shops at home have come from this little village of Brittany, or one near by.

"Are all the villages in this part of France like this one?" we ask.

"In the important ways, yes," he says. "Most of the men make their living by fishing or sailing the seas, though some farm the land or raise cattle and sheep. When the sea is rough, they do other work. French people are not lazy nor are they idle."

After a while we tell the old captain about our travels around the beautiful, wonderful world. Since he is a sailor and has been to many parts of the world, we ask him where we should go now.

"If I were you," he says, laughing, "I should stay all the rest of my life in France. We have everything here—all kinds of weather, except extremely cold weather. We have all kinds of scenery. We have old, old villages like this one and those in the mountains where the shepherd folk live. We have fine big cities like Paris. Yes, truly, France has everything."

After a time he says, "If you want my next best advice, I will tell you this: Visit the Land of the Sky."

"The Land of the Sky? What is that?" we ask.

"Switzerland, of course," says the old captain. "Switzerland, with its many high mountains, its friendly people, and its delightful playgrounds."

And now we know where we are going from France.

THE GEOGRAPHY WORKSHOP

You have now learned how people live in France, a temperate land. You have found that the way people live here is quite different from the way they live in the hot dry lands and the hot wet lands. The different parts of The Geography Workshop will help you to think about what you have learned.

GEOGRAPHY ON THE GLOBE

Have you learned to find your way around the globe? See how quickly you can carry out the suggestions given here.

Trace your way from Brittany back to your own home in Canada by the shortest route. Through what bodies of water did you pass?

Trace your way also by the longest route. Through what bodies of water did you pass? Are any of the countries through which you passed familar to you? Which countries?

What lands have you visited that lie between the Tropic of Cancer and the Arctic Circle? What lands lie between the Tropic of Cancer and the Tropic of Capricorn?

Find near Brittany one of the lines which extend from the North Pole to the South Pole. Trace that line from Brittany to the North Pole and then to the South Pole. Through what lands and waters did you pass?

Trace your whole journey on the globe from the point at which you started to the western part of France.

QUESTIONS TO ANSWER

1. Why did you have plenty of butter in France, though you had none in Greece?
2. How do the people of France use olive oil?
3. Why do the shepherds of the mountains seldom go to town?
4. Why do the people of Brittany do other work besides fishing?
5. What made Paris grow so large?
6. Why do the farmers in the Paris Basin keep rabbits?
7. Why are few fences used in the basin?
8. Why are the roads of France bordered with trees?

9. Do you think it would be practical to have our roads bordered with trees?

10. What can you do to prevent the waste of fuel in this country?

MATCHING PARTS OF SENTENCES

Here is a way for you to check yourself on some things you learned as you were studying about living in temperate lowlands. On the left-hand side below are some beginnings of sentences. On the right-hand side are the endings. But the endings are not in their correct order. Match an ending with each beginning so that the sentence makes a correct statement.

1. France has a cooler climate than Greece	...a body of land that extends into the sea and is almost an island.
2. The Alps are much higher mountains	...in all the lands around the Mediterranean Sea.
3. When a tree is cut down in France	...are more nearly alike than the small villages and the ways of living of the village people.
4. Over the whole world, the great cities and the ways of living of the city people	...as fishermen or sailors.
5. The climate is much the same and many of the crops are the same	...that they are smaller.
6. A mountain that explodes, or erupts, sending out dust and ashes is	...high in the mountains.
7. Many sheepherders live	...a volcano.
8. The farms in the Paris Basin look much like those in our own country except	...than the mountains of Greece.
9. The part of France called Brittany is on a peninsula, which is	...because it is farther from the equator.
10. In Brittany most of the people make a living	...another one is planted in its place.

PICTURES

If you have collected interesting pictures of cities, set aside a time for a picture show. Be ready to explain the pictures you brought or to answer questions about them.

Compare the pictures you have in your show with the pictures in this book.

Plan to make some pictures of one of the parts of France you have visited. A good plan is to choose some definite place and then let the whole class work at parts of the picture. Or, you may divide the class into groups and let each group work out a scene in France. You will have very colorful pictures if you make scenes in Brittany.

MAKING A COMPARISON

Think about the way people live in temperate lands. You can think of the people in France and those in your own country. Then think of the people in the hot wet lands and in the hot dry lands. Talk with your classmates about the ways in which they all live alike. Then talk about the ways the people in one land live differently from those in the other two lands.

BOOKS TO READ

Below are a number of books which you will enjoy, and which will help you get a better understanding of the people of France.

Nanette of the Wooden Shoes, by Esther Brann, tells a story of a little girl in Brittany. *The Little Lost Shepherd*, by Helen Hill and Violet Maxwell, tells of the shepherds in the mountains. *Lucky Pierre*, by Lorraine Beim and Jerrold Beim, is also a story of Brittany. *Down, Down the Mountain*, by Ellis Credle, is a story of mountain children in our own country. *Glimpses into the Long Ago*, by Edna McGuire, tells on pages 247–265 about the ancient days of the châteaus. "The White Cat," in *The White Cat and Other Old French Fairy Tales*, by Marie C. J. de B. Aulnoy, is an interesting fairy tale. *Picture Tales from the French*, by Simone Chamoud, has stories about the simple peasants of France.

J. Gaberell from Kaufmann & Fabry Co.

At the town of Davos in the high Swiss Alps one can see winter at its best. Skiing is a favorite sport here.

Living in Mountainous Switzerland

LAND OF THE SKY

The old sea captain of Brittany told us about Switzerland before we began our next journey. We were sitting with him on the shore of the peninsula, watching the fishing boats riding the waves of the ocean. He was carving a figure of a sailor in wood, talking as he worked.

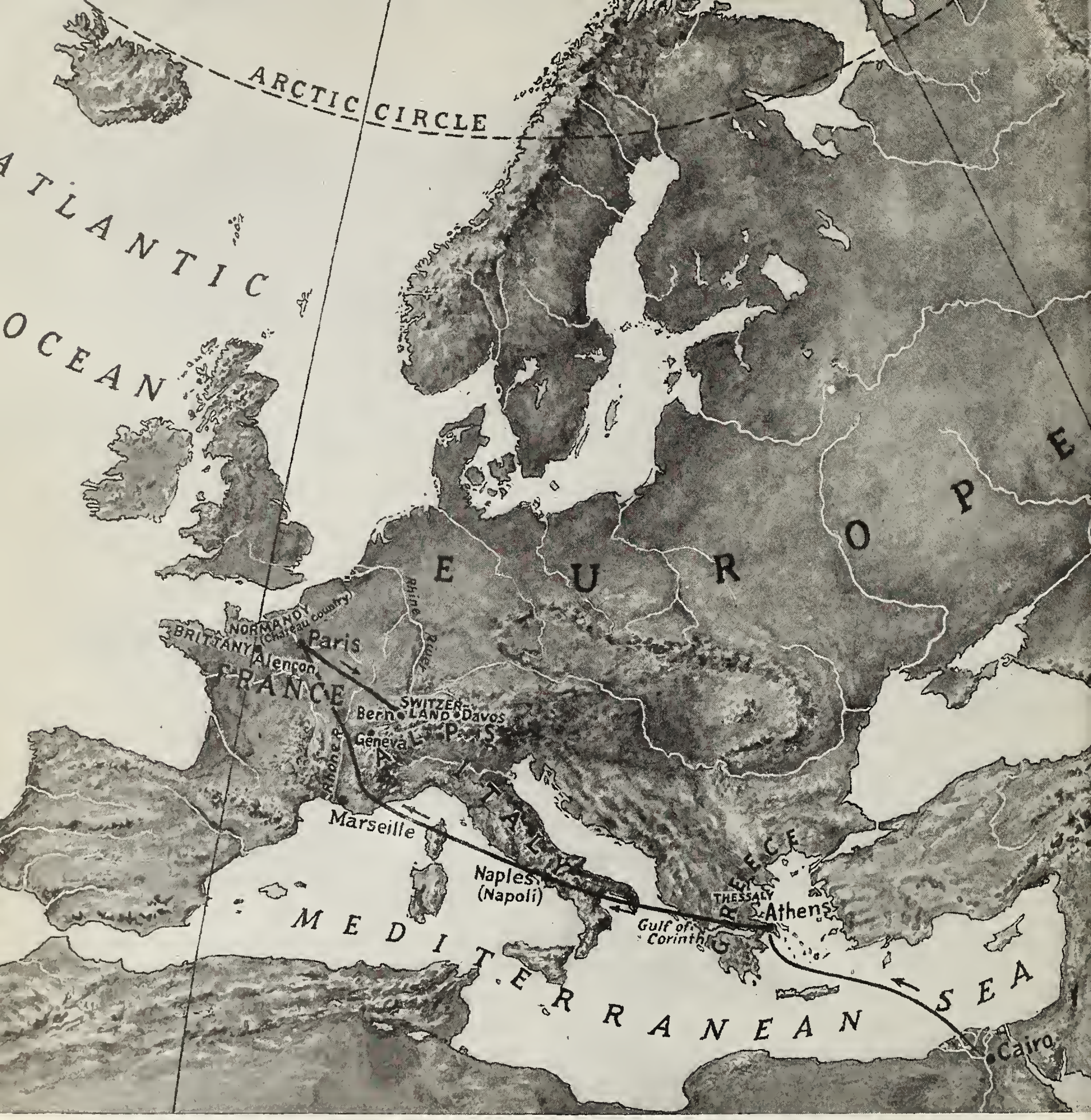
"If I were you," he said, "I would visit Switzerland. You have seen the mountains of Greece, but they are small compared to those of Switzerland. You have flown over the mountains of France, which are higher in places than the mountains of Switzerland. But you have not visited real mountain folk. Switzerland is a good place to visit. It is truly a Land of the Sky."

"What is the Land of the Sky like?" we asked.

"I will tell you something of what it is like," the captain said. He took from his pocket a large piece of brown wrapping paper in which he had carried his lunch. He twisted the paper and squeezed it very tightly in his fist. He straightened it just a little and then laid it, crumpled and wrinkled, on a rock at his side. "The Land of the Sky is like that paper, crumpled and wrinkled with mountains," he said.

It was hard to believe that any land could be so wrinkled with mountains as that piece of paper. "Do you use your mind to imagine things?" the captain asked. We nodded. "Good! So, then, imagine that a great giant, a whopper of a giant, reached down from somewhere high in the sky and picked up an enormous piece of the earth's surface as you might pick up that paper."

We tried very hard indeed to imagine how that would be.



A map of Europe and the Mediterranean Sea showing the trip from Paris to Bern.

The captain went on, "Imagine that the giant squeezed and twisted that great piece of land as I squeezed and twisted the paper. Imagine that he laid it down on the earth as I laid down the paper. That should give you an idea of how wrinkled the land of Switzerland is.

"The mountains of Switzerland do not run along in an orderly way, as well-behaved mountains should. They do not all run east-west or north-south. They run every way and any way, just as the wrinkles do in the paper. If you could sit high in the sky, ever and ever so high, and look down at the mountains of Switzerland, you would see that what I have told you is true.

"Even when you visit the Land of the Sky, you will not be able to see how crooked the mountain ranges are. This is because you can see only a small part of them at one time. Yet, as you travel through them, you will get some idea of how they run this way and that way and any way at all."

"How do people live in such a mountainous country?" we ask.

"They live very happily," the captain said, "because they have learned to make much of a little. I visited them once and I know. Their country does not touch the ocean as France does. They can't get even a glimpse of the ocean. Yet many of the people make their living by fishing.

"In your land you have large farms with acres and acres of corn, wheat, cotton, and other farm crops. In Switzerland there are no large farms. The valleys between the mountains are not large enough even for big fields. Yet some of the people make their living by farming.

"In your land you have great pasture lands over which the cattle graze. In Switzerland there are no big stretches of grass lands. Yet some of the people raise cattle, sheep, and goats.

"In your land you have large factories. You have coal, gas, and oil to run factories. Switzerland has no coal, no gas, and no oil. Yet some of the people in Switzerland work in factories. They make things that are very important to the rest of the world. For example, they make fine watches, and they make clocks so tiny that one of them can easily be carried in a small pocket. They make clocks so large that they are suitable only for use in towers."

We thought about what the captain had said and then asked, "Does Switzerland have a climate like your climate here in France?"

"No, no!" he replied. "No mountainous country has a climate like that of the lowlands or even the hilly lands. The farther up the mountains you go, the colder the climate. Some of the mountains of Switzerland are covered with snow the year round. The sun's rays are never warm enough to melt the snow."

The old sea captain made us very curious about the Land of the Sky. The climate is cool, there is not much farming land, there is no coal. If France is a land that has everything, Switzerland seems to be a land that has little or nothing. The people have learned to make much of a little. We want to go and see how they do it.

The best way to go, the old captain said, is by bus to Paris and from there to the city of Bern by airplane. "From there on, go where you please," he said and bade us good-by.

SOMETHING TO DO

Take a large sheet of brown wrapping paper and twist it and squeeze it. Straighten it out just a little through the middle. The mountains and valleys of Switzerland are twisted and rough like your paper.

MAKING THE GLOBE TELL A STORY

First, let us find just where Switzerland is. The globe shows us that it is a very small country, not nearly so large as France. In fact, it is not nearly so large as some of the provinces in our country.

Now we find an east-west line and trace it through the part of France which we are visiting. We find that Switzerland is a little farther south than this part of France. If we didn't know about the mountains, we might expect to find the same kind of climate in Switzerland that we have here in France.

Let us find other mountainous countries in Europe. Now let us find the equator and see whether it passes through any mountainous countries. What are some of the countries? What kind of climate should we find even on the equator if we went high into the mountains? Here is something to remember: Even on the equator the climate is cool in the mountains, the higher the cooler.

A map of Switzerland shows us that there are two large mountain ranges in the Land of the Sky. They are called the Jura Mountains and the Alps. Between them lie lower, but not low, lands. Most of the larger towns in Switzerland are in these lower lands. We can readily see why.

OUR VISIT TO SWITZERLAND

We have a pleasant ride on a bus from the fishing village in Brittany through the uplands of France over roads like a roller coaster. We come again through the château country, not forgetting to wave at the château where Tante Marie gave us such a good time. On through the village where Pierre's family lives we ride, hoping all the time that we may see Marie again. We don't, but we wonder what she is doing.

Our bus rolls swiftly along straight into Paris. There we board a plane and fly to the east over more of the Paris Basin. We look down from the skies at more villages, more towns, more cities, more beautiful forests.

The hotel at Bern, located above the river just below the beautiful Swiss government buildings.

E. A. Pitshke from Gendreau

Bern, an Old City

High over the Jura Mountains we fly, over the mountains and onto a high plain, and presently land at Bern, a beautiful and very old city. We ride into the city in a bus, which stops at an old hotel on the bank of a stream. You can see the hotel in the picture on this page.

Everything about the hotel is as clean as a new pin. Everything looks as if it had just had a good scrubbing, and it has. Foot wipers and foot scrapers are at every door, and everyone is expected to clean the mud from his shoes before entering. We do as we are supposed to do, find rooms, and then hurry out to see the sights of the city.

Now we stand on the bank of the stream and look off into the distance where towering mountains reach two miles toward the sky. Then we walk through the narrow and crooked streets of the city. Some of the houses lean this way, some that way, as if they were tired. Really, they must be, for this town was here when Columbus discovered America. Some of the houses are as old as the town.

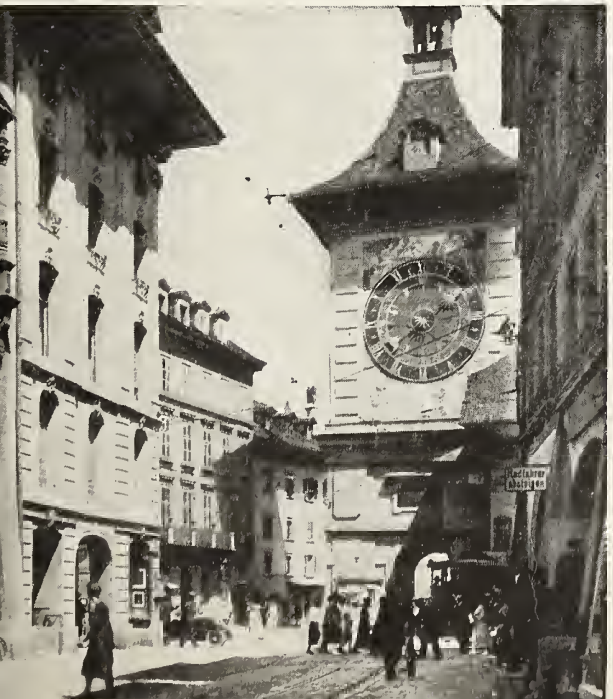
The shops are tiny, with very low ceilings and very small windows. They would be too dark for business if the electric lights were not kept on all the time. They are full of beautiful things that the Swiss people have made. There are laces as fine as cobwebs, almost, and figures cleverly carved of wood. There are toys and dolls and pretty dishes of glass and pottery. There are all sorts of things for people to buy.

Now we come to a tower where many other tourists are standing as if they were waiting for something to happen. They are, so we wait, too. What happens? A clock strikes! The clock which you see in the picture below is more than three hundred years old, but it still keeps right on telling time. When it strikes the hours, a little door in the tower flies open and out struts a big rooster—a mechanical rooster, of course. He crows loudly. At that a troop of bears comes from somewhere in the tower. They march around solemnly in a procession just as they have been doing for many, many years. All these figures are of wood very beautifully carved.

We remember that the old sea captain told us many people in Switzerland make watches and clocks. We ask questions and find out that there are many watch and clock factories in Bern. There are factories, too, scattered through the mountains near the city. We cannot see them because they are in the homes of the people.

Downtown Bern where the famous old clock strikes the hours for the busy people in the street below.

De Cou from Ewing Galloway



Ewing Galloway

A wood carver at work in his shop in Switzerland.

In one home fine springs for watches are made, in another watchcases, in another some other parts of a watch. We learn that a Swiss watch has one hundred seventy pieces. How very small these pieces must be! Some of the screws made for watches are smaller than the head of a pin. All the work in making parts of a watch has to be done very carefully, of course. Fathers teach their sons in the home, and after a while the sons will teach their sons.

Music boxes are made in some of the home factories. Skilled workers carve beautiful figures, like those you see in the picture at the top of this page. Women make fine lace, or plait straw into pretty baskets, boxes, and bags. Toys, too, are made by men, women, and children. The mountains around Bern are often called the beehive of Switzerland, because all the people, young and old, are as busy as bees.

Boury from Three Lions

Geneva, largest and best-known city of Switzerland, is located at the western end of beautiful Lake Geneva.

THINGS TO DO

Find out whether anyone you know has a Swiss watch. If so, find out, if you can, in what part of Switzerland the watch was made. Select several members of your class to ask at the stores about articles that came from Switzerland. They will report to the class what they have learned.

Have you anything in your home that was carved of wood? Where did it come from? Have you toys that came from the Land of the Sky? Learn all you can about these and set aside some time to talk about them.

City and Lake Called Geneva

We have come by plane to Lake Geneva, which is shaped something like a crooked-necked squash. At the end of the narrow part of this lake is a famous city, also named Geneva.

The waters of the lake are so clear that we can see fish swimming over the silvery stones far below. Boats of all kinds, large and small, from steamboats, like those in the picture above, to skiffs and canoes, go skimming over the bright waters. Some of them carry passengers and goods from one town to another on the shores of the lake. Some of them carry fishermen. Now we see that there are fishermen in Switzerland as well as in Brittany, but they do not do the same kind of fishing.

The city of Geneva, like Bern, has many factories, and so has the country round about. There are thousands of farms near the city. They are very small farms, most of them having less than fifteen acres of ground. High in the mountains cattle are feeding on scattered patches of grass no bigger than living-room rugs. The cows are driven out to these tiny pastures as soon as the grass is green. It is fortunate for the cows, and for the farmers as well, that the soil in the mountains is rich.

Every patch of ground that is not covered with rocks or with snow is used for either pasture or forest or for growing something useful. Nothing, not even the tiniest piece of ground, is wasted in the Land of the Sky.

We roam around the city and the lovely lake day after day. And we feel very proud that we are visiting one of the most famous spots of the world.

To the Swiss Alps

We have not yet seen the highest of the mountains of Switzerland. To do so, we must go to the Alps, which are in the eastern part of the country. How shall we make the trip?

We are told that part of the journey can be made by train. The trains are run by electricity, in a manner that we can't understand. Yet we do understand that the electric power comes from the force of the mountain streams.

We take seats in the small cars, which are not like our coaches at home. These cars are divided into compartments. As the train moves along, we look out of the windows at the vineyards and fields and orchards that are spread out before us. Though it is late, and the fruit and the crops have been gathered, the countryside still looks pretty and as neat as a well-kept garden.

As our train goes higher and higher, the air becomes cooler and cooler. Now we are on the high slopes and are passing through forests of birch, larch, and chestnut. A few wheat fields lie among the forests. What tiny patches they are! From our window, the fields far below look no larger than handkerchiefs.

Higher and higher our train climbs into the mountains. Now we see forests of pine and fir and other evergreen trees. After a while we see bare stretches where nothing at all will grow, except a few shrubs and some moss. Above on the peaks lies deep snow.

At last our train stops at a small town called Gletsch. Here we are offered two ways of crossing the mountains. We can go on by train through a tunnel which runs through the high mountains, or we can go by automobile over a road which follows a *pass*. We are told that a pass is an open place in the mountains where roads can be built more easily than at other places. We decide to go by automobile so that we can see more of the surrounding country.

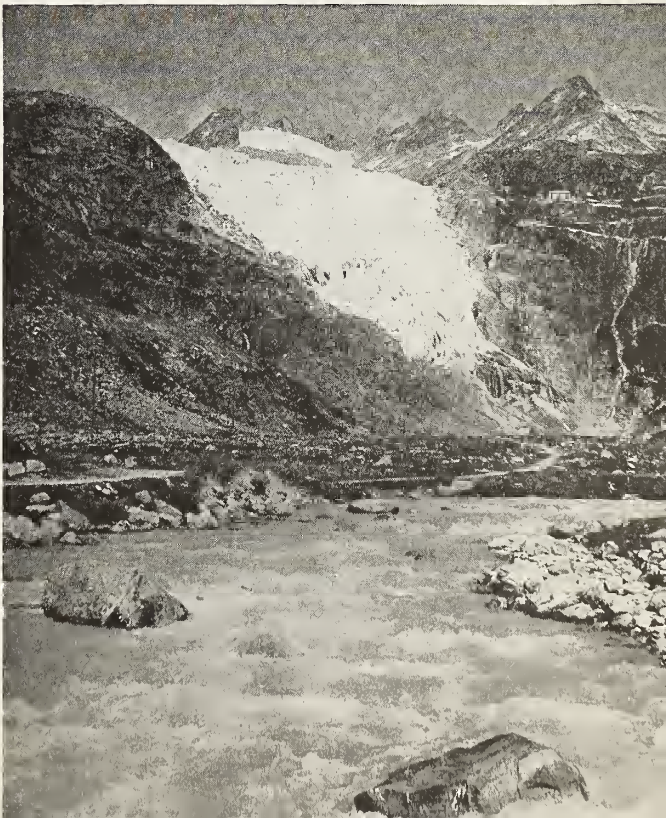
Our road follows the valley of the Rhone River. This river flows swiftly down from the mountains, leaping over rocks and crags. We lean out from the cars as far as we can to look at the lofty peaks capped with snow. We remember what the captain said about the mountain ranges running this way and that.

Sometimes our automobiles go so near the edge of the cliff that we can see far, far below. Sometimes we go around very sharp curves. Yet we are not frightened, for the drivers know almost every inch of the roads and drive very carefully.

Now we have come to a very small mountain stream and soon we reach a place where the valley is filled with ice. We see in the picture on this page that the lower edge of the ice is slowly melting, and that a stream of water is running from it. This great mass of ice, or *glacier*, which is melting so slowly, is

The Rhone River and its source, the Rhone Glacier. The little new river is strong, rough, and swift.

Beebee from Monkemeyer



J. Gaberell from Kaufmann & Fabry Co.

A winding road joins the Rhone and Rhine valleys.

really the beginning, or *source*, of the Rhone River. Our driver tells us how a glacier is formed. It is this way:

The highest mountains are always covered with snow. Very little of the snow melts, because the sun's rays are not warm enough to melt it. Almost every day more and more snow falls, and it piles up deep on the tops and the sides of the mountains. The weight of the snow presses the lower layers together and they turn into ice. This mass of ice, or glacier, becomes so heavy that its own weight moves it down the sides of the mountains. It moves slowly, of course, but it moves just the same. As it comes down to the warmer slopes, the ice melts. In this way many mountain streams are formed.

By and by we reach the highest point of our journey. We leave the Rhone Valley and start down another valley to the east, following the winding road shown in the picture above. The river that runs through this valley is called the Rhine. It is one of the most famous rivers of the world. We see that it, too, comes from the mountains of Switzerland.

A Good Time at Davos

We have come up the mountains to a town called Davos. It is located on a high slope, and not far away is a small, lovely lake. To the north and west, as we see in the picture on page 107, the mountains form a high wall. This wall keeps out the severe cold. The sun is bright, the air is clear and fresh, and everything around us is beautiful. We want to stay in Davos a long time.

Shall we stay in a hotel, or shall we try to find rooms in some of the homes? We decide to stay in the homes if the people will take us. There are many guides in Davos who are willing to help us find rooms, and very soon we are comfortably settled in homes.

The houses are all built of wood, often of logs, and they are not high. Low houses with thick walls, such as these have, are easy to keep warm. All the houses have strong roofs to hold up the snow that piles on them during the winter. They have wide eaves, and the gables of the eaves are often notched and carved in fancy designs. The small houses look like the gingerbread house in the story "Hänsel and Gretel." Inside, the houses are cozy and cheerful.

Now we see how some people of this country make their living. It is by taking care of the hundreds of tourists who come to visit the Land of the Sky. The Swiss furnish food, beds, and guides for the tourists and arrange all sorts of ice and snow sports for their pleasure. People come from all over the world to watch the winter sports at Davos, and we hear many different languages spoken. The Swiss learn several of these languages so that they may care for their visitors easily and politely.

Never before have we seen so many aprons as we are seeing now. Switzerland is really a land of aprons as well as a Land of the Sky. Every woman wears a big apron or some kind of covering for her dress. Every workman wears a covering to protect his clothes. The children at home and at school wear loose black overblouses or smocks which button right down the back. No ink spots or crayon marks smudge their good clothing.

We have not been in Davos long before we have made a good friend. This is Anton, the son of one of the guides. He expects to be a guide when he grows up, and he thinks it will be fun to practice on us. We think so, too. He takes us over the mountains looking for flowers. But they are all gone. Then we look for wild wood creatures such as rabbits.

Soon the first really heavy snow falls. Anton says that this is only the beginning, and there will be much more snow. Then we can go skiing.

This morning the snow is quite deep and Anton calls us excitedly. He has several pairs of skis. They look much like those we use in our own country. We are so glad to be on skis again, for skiing reminds us of home. Some of us have skied down the slopes of the Rockies or of the Laurentians, but all of us know that skiing is one of Canada's most popular sports.

We find that we have several things in common with Swiss children; like them, we wear heavy clothing in winter and enjoy the same sports. The main difference between our countries is that our land is so much bigger, and has much wider plains and low uplands. In fact we have more plain than mountain, but in Switzerland it is the other way about.

We have decided to stay the whole winter in Switzerland. Nothing is more fun than skiing down the gentle slopes of the mountains, unless it is skimming over the lake on skates. We go iceboating, too. And sometimes we go to the big snow and ice carnivals where famous skiers from other countries come to perform. At night when we have

Philip Gendreau

Two daring skiers break new trails in the snow. Skiing is the outstanding sport in Switzerland.

Century Photos, Inc.

Men cutting hay on the high slopes of the Alps. Each man uses a scythe and works down the hill.

Century Photos, Inc.

Haying in the tiny fields of the Swiss Alps. The work is hard, but the grass makes excellent hay.

grown sleepy sitting by the warm fire, we tumble into big beds cozy with puffy feather mattresses.

As we go about with Anton, we learn much about the Swiss countryside where people make their living by farming. One thing we learn is that all farm animals must be warmly stabled in winter. They must be fed all winter, too, since the snow is so deep that they cannot possibly find grass in the pastures.

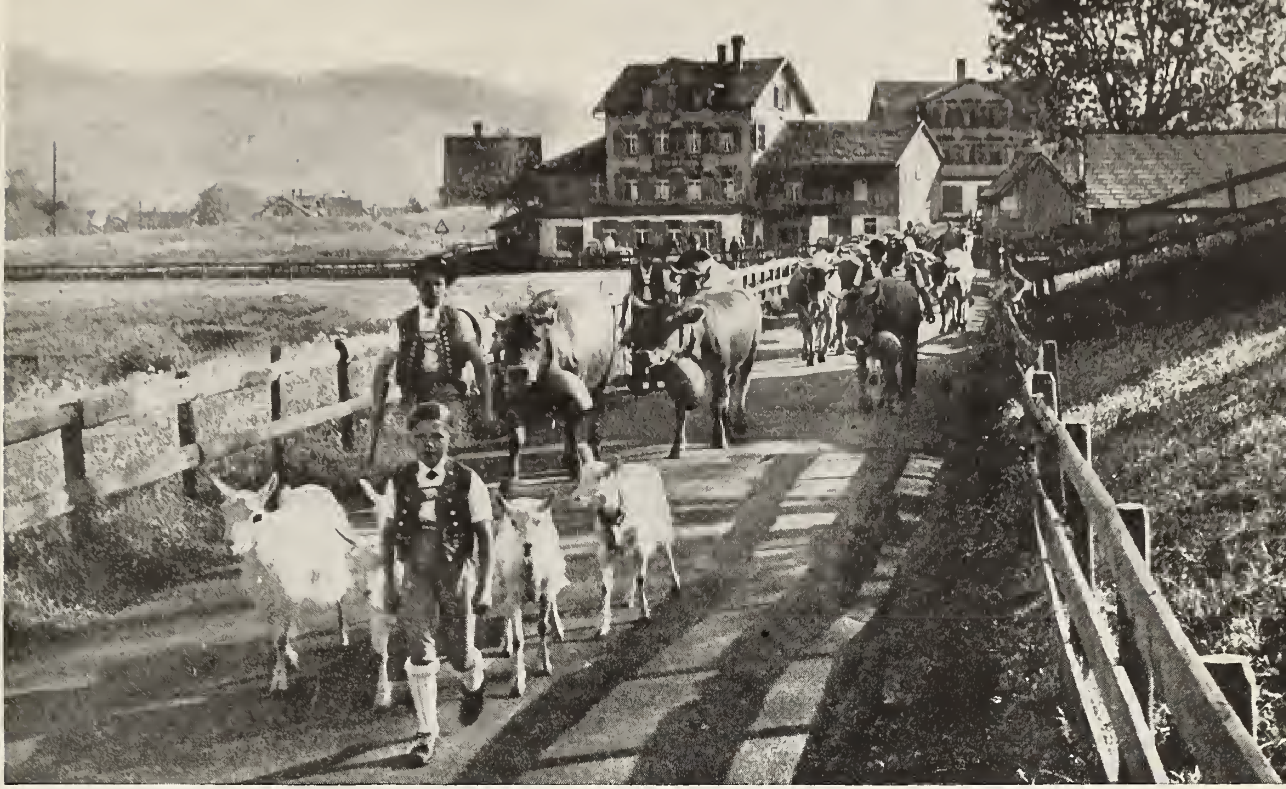
In the steep mountains the farmers raise hay for the winter feeding. At harvest time the hay is cut with a scythe, as we see in the top picture on this page. Then it is dried. It can't be hauled down the slopes in a wagon or on a cart. So the farmers stack it wherever they can. Then they go out to get it when it is needed. Sometimes they carry it home on their backs, as the men in the lower picture on this page are doing.

In the summer the farmers take their cattle up into the mountains to eat the fine grass. The top picture on the opposite page shows them starting out. Each farmer who has many cows or goats has really two homes. One is near the town for winter and one is in the mountains for summer. The summer house is called a chalet (shă-lā′). All the family, or at least part of the family, go to spend the summer in the chalet. The bottom picture on the opposite page shows a chalet in the mountains.

"What do they do with all the milk from the cows?" we ask. Surely, we think, they can't bring it down to the valley every day.

"You have heard of Swiss cheese, haven't you?" Anton asks. "Well, then, you know what they do with the milk. They make the cheese in great kettles and then store it carefully to age. Switzerland is famous for its fine cheese."

We learn much from Anton. We learn even more from his teacher, for we have decided to go to school in Davos. Anton

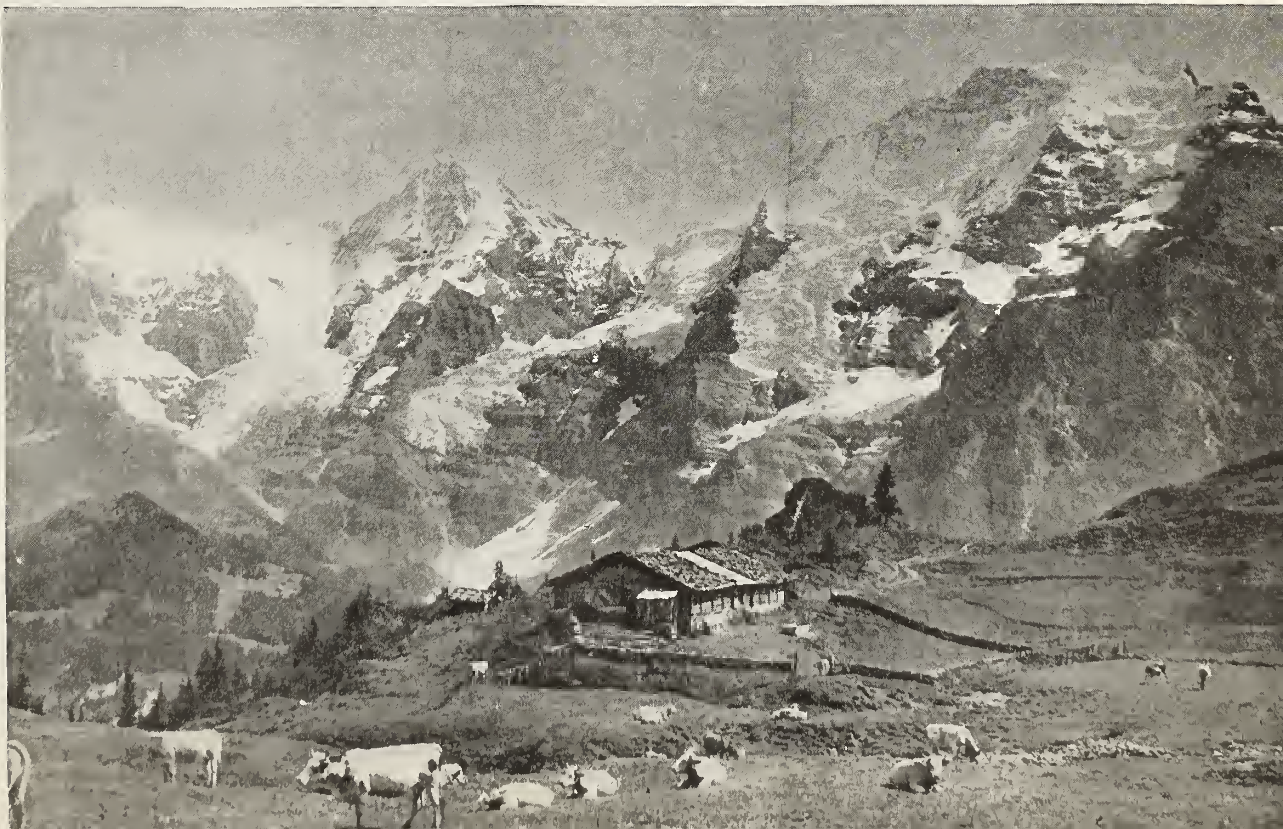


Meerkamper from Monkemeyer

On the way to Swiss mountain pastures for summer cheese making. The cows in front wear great cowbells.

Mountain pastures in the high Alps reach almost to the glaciers. Every bit of grass land is used by the Swiss.

Century Photos, Inc.



Century Photos, Inc.

Great, heavy rocks prevent the wind from lifting the roofs off these farm buildings in the Alps.

is learning to speak French, German, Italian, and English. He already speaks some of these languages, but he must learn the rules of speech, too, so that he may speak properly. He studies geography and the history of his country. He learns how to do arithmetic problems, and especially he learns the value of money. Taking good care of money is important in Switzerland.

One day we go with Anton to a school far out from the town and deep in the mountains. We follow the twists and turns of a narrow road through forests of pine and fir until we come to the school. It is just a tiny bit of a building nestled close to the mountain side. The roof is weighted with stones to keep it from blowing off in severe windstorms. Many Swiss houses and sheds for animals, like those in the picture above, are weighted so, too.

We go through a tiny hallway into the one room of the building. The windows are full of bright-blooming plants and on the wall hangs a picture of William Tell, a brave hero of Switzerland. A big tile stove stands in the center of the room, and around it the teacher and the children are gathered. The children are saying their lessons in German. By and by they will say lessons in French and then in Italian.

Anton tells the teacher that we are from America. "Very well," says the teacher, nodding to us, "we shall have our next lesson in English to honor our American visitors." We feel very important. We have a history lesson and learn how the Land of the Sky had its beginning.

Hundreds and hundreds of years ago, people first went to Switzerland to escape robber bands. These robber bands wandered through the rich valleys of Europe stealing cattle, crops, money, anything.

The people who went into the high mountains of Switzerland were safe from robber bands, but they had no houses to live in. They had no clothing except what they wore, and no food except what they could find in the mountains.

At first they lived in caves in the mountains or in rude huts which they made of logs and branches of trees. They hunted for food, and they made their clothing last as long as it would.

As years went by, they built better homes. They spun and wove materials for clothing. They worked hard and planned well. After a time they went down to the valley to get the things that they needed, so they lived more comfortably. They came to love their homes in the mountains. Their children stayed on. Their children's children stayed on.

After a great many years the people made roads down the sides of the mountains. Then other people came into the mountains. Some came just to see the beautiful scenery. Others came to make homes. All those who stayed had to work hard, had to make much of a little. That is how the country grew into a nation that is strong for such a small nation.

The people of Switzerland love their freedom even more than their mountains. They do not go often to war because they do not want the lands that other people have. They are content with what they have, but they want what they work for. Since they have to work hard for all that they have, they do not waste anything.

When the history lesson was over, the children sang old Alpine songs which have been sung in the Land of the Sky for hundreds and hundreds of years. Some of these old songs have never been printed in books, but through the years parents have taught their children words and music.

THE GEOGRAPHY WORKSHOP

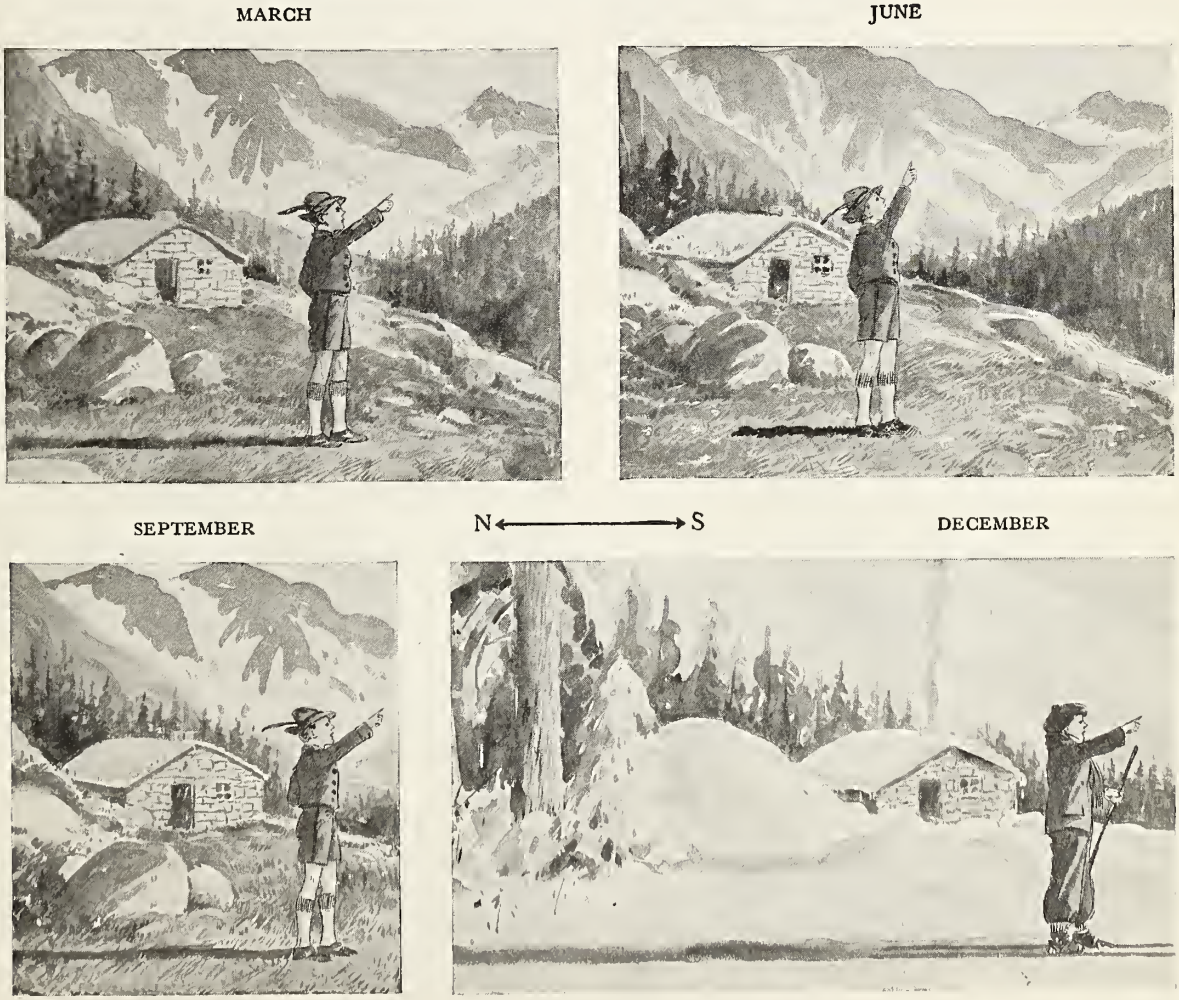
Switzerland is an interesting land because it is so different from the other lands you have studied. What have you learned about Switzerland? Here are some ways to check yourself on what you have learned. You can learn new things, too, by reading the books that are suggested.

POSITION OF THE SUN

The climate of Switzerland is much colder than that of any other country we have visited. Give two reasons why this is true.

Below you will find pictures of Anton pointing to the noonday sun at different times

A boy in Switzerland pointing to the noonday sun at different times of the year.



MARCH

JUNE

SEPTEMBER

DECEMBER

of the year. Study these pictures and discuss them in class. Compare them with other pictures showing the position of the noonday sun in other lands.

DO YOU KNOW?

Here are some questions about Switzerland to discuss in class.

1. What would have happened to the people who escaped to the mountains if they had not found food, clothing, and shelter?
2. What kinds of foods do you think they found?
3. Of what materials do you think they made their clothing?
4. Why did they make good roads down the sides of the mountains?
5. One of the ways of making a living in Switzerland today is caring for the many tourists who visit the country. Do you think there would have been any tourists if the roads had not been built?
6. The Swiss make a great many small things like watches and toys. Why?
7. They also make larger things, such as engines and machines. Where do they get the power?
8. Why do people in Switzerland speak three different languages? A study of the map will help you to answer this question.
9. Some men and women make their living in sports. Do you know any people in your own country who make their living that way? What do they do?

CORRECTING STATEMENTS THAT ARE NOT TRUE

Some of the statements below are right and some of them are wrong. Find the ones that are wrong. On a piece of paper rewrite the incorrect statements so that they say what is true. Perhaps you will need to look back in your book now and then.

1. Switzerland is on the Atlantic Ocean just as France is.
2. The farther up a mountain a person goes, the colder the climate becomes.
3. In Switzerland there are two large mountain ranges called the Jura Mountains and the Alps.
4. Most of the work of making watches, clocks, and fine laces is done in large factories.
5. No people in Switzerland make a living by fishing because Switzerland is not located on the sea.
6. The farms in Switzerland are quite large.
7. Most of the farmers do not live in the same place in winter as they do in summer.
8. A mountain pass is a high mountain peak.
9. A glacier is a great mass of ice that moves down the mountain side and very slowly melts.
10. The source of a river is its beginning.
11. The sources of the Rhine and Rhone rivers are in the mountains of France.
12. The people in Switzerland do not like to have tourists come to their country.

THINGS TO DO

Plan some pictures of mountain scenes in Switzerland.

If you have a sand table, show the mountain ranges of Switzerland. If not, make a map on the floor or on the blackboard.

COMPLETING SENTENCES

Copy each of the following sentences and complete it by using a word in the place of the xxxxx's.

1. One reason why Switzerland is cold in winter and cool in summer is that it is high in the xxxxx.
2. A second reason why Switzerland is cold in winter and cool in summer is that it is far from the xxxxx.
3. Many Swiss farmers drive their animals into the higher mountains in xxxxx and bring them down to the valleys in xxxxx.
4. The house where Anton lives in the summer is called a xxxxx.
5. The beautiful city of Geneva is located on Lake xxxxx.

BOOKS TO READ

Plan a reading program of Swiss stories. Some interesting ones are *Heidi*, by Johanna Spyri; *What Time Is It?* by M. Ilin; "The Story of William Tell," in *A Treasury of Heroes and Heroines*, by Clayton Edwards.

Three Lions

A small Norwegian farm at the end of a fiord. The strongly made buildings withstand the winter storms.

Land of the Midnight Sun

TO A FAR NORTHERN LAND

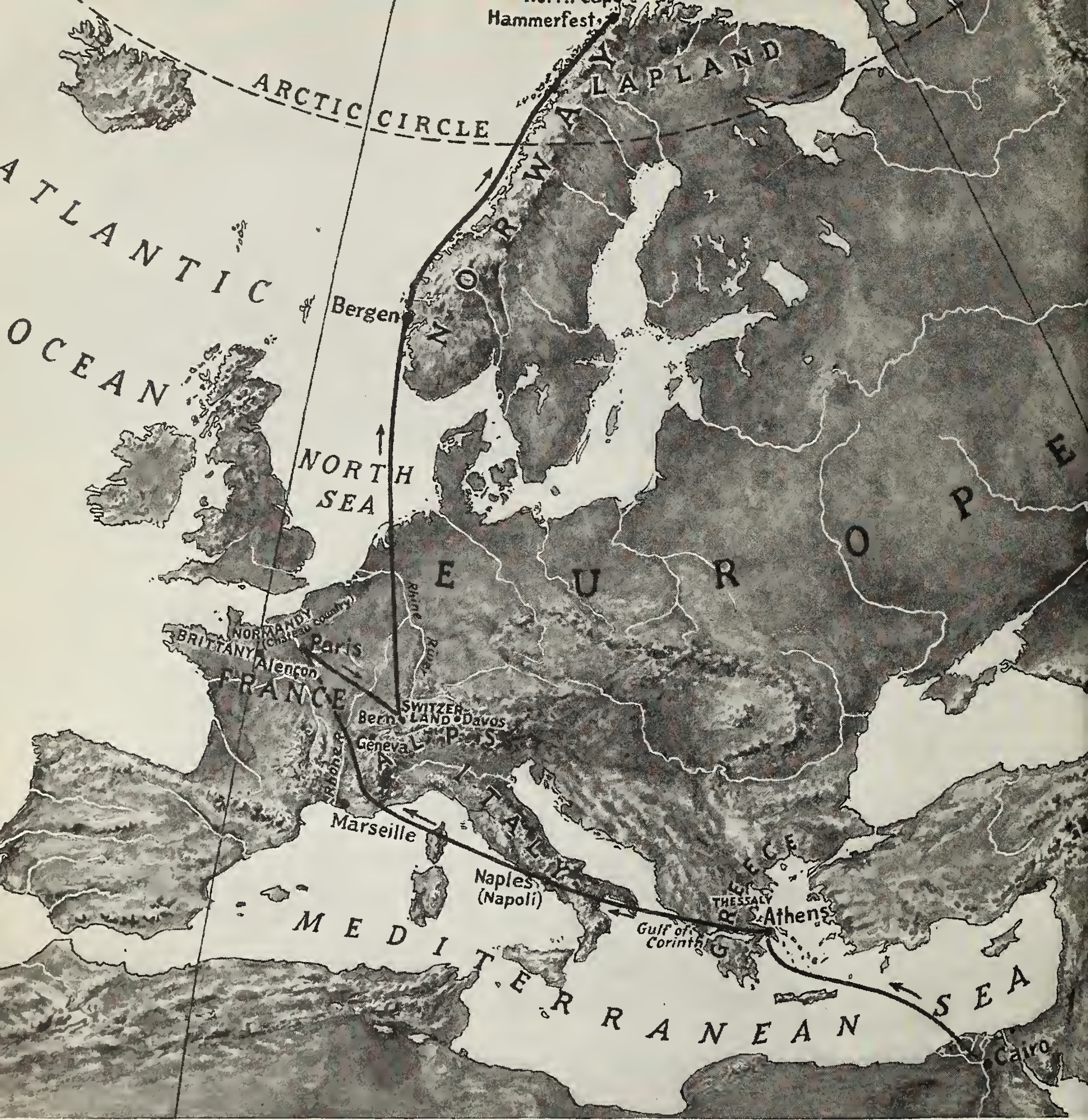
Spring had already come to Switzerland when we left there after a winter of skiing, skating, and coasting near Davos. It had melted the snow on the mountains and made the little streams in the valley swell to rushing and roaring torrents. It had painted the pastures green with grass. It had covered the mountain slopes with bright flowers.

Already the farmers had begun to turn over the soil of their tiny farms, making ready for the sowing of crops. Weeks before that they had pruned their vineyards and orchards for the summer's growth. Soon they would be taking their sheep, cattle, and goats up into the mountain pastures.

Anton begged us to stay in Switzerland all summer. He liked being a guide so well that he wanted to practice on us a while longer. He could take us to places, he said, where we couldn't possibly go in wintertime. We wanted to stay, yet we also wanted to see more of the world and different parts of the world. Our next trip, we had decided, was to take us to Norway, the Land of the Midnight Sun.

"In Norway," Anton said, "farmers also take their animals to the mountain pastures. A mountain pasture there is called a *saeter*. You may get there in time to see the procession start for the saeter. I doubt that you will be taken all the way, though. Farmers in Norway, just as in Switzerland, do not have much time for tourists. The work of the farmers is farming, and our work is guiding the visitors."

Anton really liked giving us information. He had been doing this for so many weeks that he had begun to feel very knowing and important. Still, we liked him as a friend as well as a guide.



A map of Europe showing our trip from Bern to Hammerfest.

But the next morning we said good-by to him and to our other friends in the town. We said good-by to the stout little houses with their fancy carved eaves. We waved farewell to the mountains where we had had so much fun all winter. Then we were off for Bern, over mountains, valleys, and lakes.

There, if we had time, we would go and look again at the clock in the old tower. Then we would take a plane and sail away through the skies over land and over sea to the Land of the Midnight Sun. We had planned our trip very carefully on a globe which stood in the biggest hotel at Davos.

MAKING THE GLOBE TELL A STORY

Let us find on the globe the country we are about to visit. Tilt the globe so that the line marked Arctic Circle is straight in front of you. Find Norway. Notice that part of this country extends beyond the Arctic Circle. What kind of climate shall we expect in that part of Norway? Is summer the best time to visit this country?

A part of Norway lies between the Arctic Circle and the Tropic of Cancer. What kind of climate shall we expect there? In finding these countries between the lines on the globe, we must remember that climate does not change suddenly with the reaching of any of the lines. The change is gradual. As we move away from the equator, the sun's rays gradually grow less and less direct.

Give yourself some practice with the globe by following these directions: Find a north-south line that runs through France and follow it to the North Pole. In which direction from this line does Norway lie?

Find the north-south line nearest Greece and follow it to the North Pole. In which direction from this line does Norway lie? Find the east-west line nearest your home. In which direction from this line is Norway? Does Norway seem to be much farther north than your home?

When you stand facing west, which side of you is north? When you stand facing east, which side of you is north? If you were to travel around the Arctic Circle toward the west, would the North Pole be at your left or your right? If you were to travel around the Arctic Circle toward the east, would the North Pole be left or right?

Now find the city of Bergen on the map on the opposite page. In what direction from Paris does it lie? Would you expect the noonday sun to be higher at Paris than it is at Bergen? Why? In which city would you expect to find longer days in summer? Which would have longer days in winter?

OUR VISIT TO NORWAY

Here we are in a plane again, this time headed north, and sailing over a sea which is swarming with boats of all kinds. There are steamboats, sailboats, and motorboats. The North Sea is one of the busiest bodies of water in the whole world. This is because its waters wash the shores of busy countries.

On and on we fly. Presently we catch glimpses of forest-covered mountains, the first we have seen since we flew over the mountainous country near Switzerland. Many of the mountains of Norway come right down to the edge of the water. In some places the shore line is very irregular, and the sea fills up the valleys between the mountains. High, rocky cliffs rise above the water. Such arms of the sea are called *fiords.*

Along the shore are a great many islands, and near them are fishing boats. There are also such boats in the fiords. We know we must be near a fishing center.

Bergen, a City of Fishermen

Soon our plane circles over the city of Bergen and glides down to the airport. We find rooms in a hotel on the street shown in the top picture on page 124. Then we walk around the city and go down to the shore. There we watch the fishermen unload their catch for the day from fishing boats like those in the lower left-hand picture on page 124.

Many of the fishermen have used great nets which are now alive with squirming and wriggling fish. Some of the nets, like the one in the picture at the right on page 124, are so big that they have to be emptied by machinery. The fish are put into large bins on the deck. There are

Burton Holmes from Ewing Galloway

The main business street in Bergen, Norway. Note modern appearance of this new part of the city.

great canneries in Bergen, where the fish will be packed and sealed in containers to be sent to different parts of the world.

Not all the fish are canned. Some of them are dried. Such fish are cleaned and split into two parts and then hung over racks where the air and the sun dry them completely. We saw such racks as we flew toward the city and wondered about them. Now we know.

THINGS TO DO

Turn again to the map on page 122 and trace your way from Bergen in Norway to Bern in Switzerland. In what direction did we fly when we came to Bergen? In what direction would we fly going back?

Find on the map a river called the Rhine. Follow it downstream to its mouth. North of the lower part of this river we fly over a little country sometimes called the Netherlands and sometimes Holland. Do you know anything about this country? Look in your reading texts or library books for stories about it. Then tell in class what you know about it.

On Norwegian Farms

We want to visit a farm in Norway, and we ask at our hotel in Bergen how this may be done. We are told that Norway is not a land of tourists as Switzer-

Fishing boats anchored along the water front at Bergen. Some of the buildings are several hundred years old.

Pix Publishing, Inc.

Far out at sea these Bergen fishermen use a sturdy machine to empty their huge net filled with shining fish.

Ewing Galloway

land is. Yet there are people not far from the city who will be glad to care for us for several days. A man at the information desk at the hotel promises to arrange a visit for us.

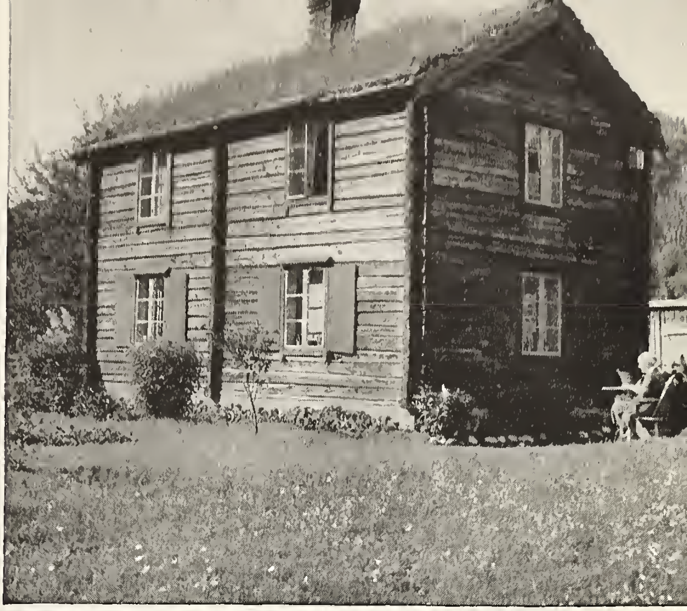
Soon we are told that we may visit several farms close together and some distance from Bergen. A little farm girl named Ragna will act as our guide because she can speak English. We shall go by train to a station near the farms, and there Ragna will meet us.

Our train winds around the sides of the mountains near the shore of the sea. It goes through several tunnels which have been dug through the mountains. It runs beside a fiord, it follows a valley. The railroad line is so crooked that sometimes the sun shines through the windows at one side of our car and sometimes at the opposite side. We are all mixed up in our directions.

Ragna meets us at the station, and we walk out to the farmhouses where we are to stay. They look like the farmhouse in the picture on page 121. Here the farmers do not live in villages as they do in Greece and France and in other countries of Europe. In some places the houses are lonely distances apart. This is because the farm land is broken up by the many mountains and fiords. But where we are to visit there are several farmhouses quite close together.

Soon we are comfortably settled. Like the houses in Switzerland, the Norwegian farmhouses are of wood. You can see in the picture on this page that they are built with stout roofs and stout walls, for here, too, there is much snow in winter. Sometimes the eaves extend over the sides and the gables are gay with painted flowers.

Inside, the houses are as clean as can be. The walls are finished in smooth polished wood on which have been painted more flowers. The windows are bright with blooming plants and on the floor are hand-woven rugs. Ragna switches on the electric lights and stirs up the fire in the great fireplace. The air is still chilly.



James Sawders

This Norwegian house is built of squared logs and has a sod roof to help keep out the winter cold.

Ragna takes off her hat, and we see that she wears her fair hair in long braids wound around her head. Her skirts are very full and to us they seem rather too long. Perhaps our skirts seem rather too short to her. Her apron is embroidered with gaily colored yarns.

Her small brother, who comes into the room a little bit at a time, has on a new Indian suit, exactly like those the boys at home wear. Ragna says that "playing Indian" is one of the favorite games in her land, where the children have read about our American Indians. Her big brother is a Boy Scout. He, too, can speak English. Her father and mother cannot speak English, but they smile very pleasantly, and a smile is the same in any language.

We have a fine supper of vegetable soup, fish, potatoes, and rye bread with cheese. The bread is baked, not in a loaf, but flat like a pancake. It is hard but tastes very good. Everyone drinks a great deal of coffee.

Not long after supper, too soon it seems to us, Ragna's mother says it is time for bed. "But the sun is still shining," we object. Ragna laughs and says that if we didn't get to bed until the sun went to bed, we should be staying up most of the night. At this time of year, she explains, the sun shines nearly all night long.

"Have we come to the country of the midnight sun so soon?" we ask. Oh, no. But even here the sun is very late setting, very early rising.

Up to Summer Pastures

In the morning we hear a great stir all through the house and the farmyard. We dress quickly, eat our breakfast, and run out to see what is happening. The farmers are getting ready to take the sheep and cattle and goats up the mountain side for the summer pasturing. How lucky we are! We had no chance to see such a procession in Switzerland, but now we shall see it in Norway. We must write to Anton and tell him.

The sun has painted a yellow stripe on the clean, bare floor of the great kitchen. Ragna says such bright sunshine means good weather for the moving, and she is glad. It is not pleasant to make the long trip up the mountain side in the rain, or to be caught in the rain halfway up.

After breakfast we run out to see what goes on. First of all, we see a great many cows and calves in the farmyard. Most of them wear bells around their necks. They do not all belong to Ragna's father, we learn. One belongs to a shoemaker, one to a tailor, one to a parson. Some belong to near-by farmers and the rest to Ragna's father.

"Will the strange cows get along well together?" we ask Ragna. They are rather restless and seem to be unhappy about taking a journey.

"They will get along all right when they are on their way to the pastures," Ragna answers.

In a big shed some goats are getting acquainted with one another. They act a bit scrappy, backing off to look at each other with something like fight and something like fear in their hard little eyes. Now and then two of them come together, butting their heads. Then they back off, staring at each other fiercely. They, like the cows, belong to different people in the neighborhood. We count the cows and find that there are twenty-three in all. But we get hopelessly mixed when we try to count the goats in the big shed, for they move around too much, restlessly, cautiously.

Several boys from the neighborhood will go along with the herds to help the herders care for the animals during the summer. The principal job is to keep them from straying away and getting lost. One of these boys is Ragna's brother Ole, the Boy Scout.

"The other boys of Ole's age are Scouts, too," Ragna says. "They are proud of being Scouts and they try hard to do well with the herding. Their troop will honor them if they do well and lose no animals. Besides, every Scout is proud of being trustworthy. Is it so in America, too?" We say it is so in America, too.

Several women are going along with the procession to help with the milking, to make the cheese, and to can the big blueberries that are found in the mountains. Now the women are busy packing the things they need in big baskets of birchbark, which will be carried by the old farm horse. It is a slow journey to the saeter, which you see in the picture on the opposite page. Once the herders and the cheesemakers are settled in their huts on the mountains, they do not come back to the valley during the summer unless something unusual happens. "One time they forgot their soap," Ragna says, laughing. "The boys did not mind that, but the women did. They had to send back for some."

We ask Ragna if we may go along a part of the way. We know that we shall not be allowed to go all the way, for there will not be room enough for all of us in the huts. Ragna speaks to her mother, who says that we may all go as far as the first wide brook.

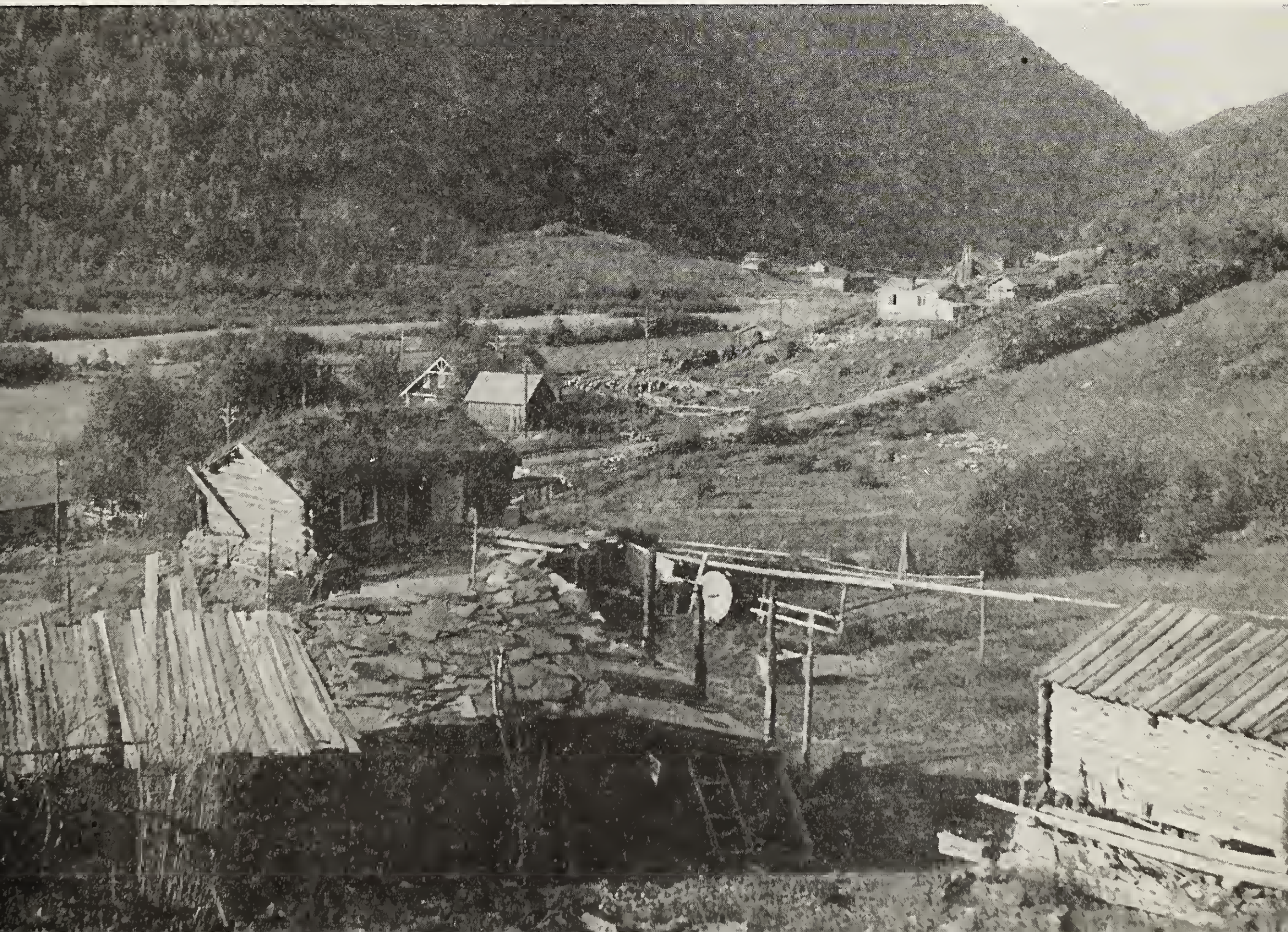
At last the procession starts, led by Trina, a big cow with the biggest bell around her neck. Trina knows the way very well because she is old enough to have made the journey several times. In fact, Ragna tells us, this cow made her first trip to the saeter when she was only a wobbly-legged calf. At that time Ragna's father had to carry the little Trina in a wagon part of the way. Now she is old and experienced and walks along very proudly as leader.

After Trina go the others. Now and then some of them stray from the path which Trina makes through the dew. The herders run after them and with birch sticks keep them in line with the rest.

We walk along slowly, taking in all the sights of the countryside. We go through a valley, like the one in the picture on page 128. It is like walking through a picture-book country, too beautiful to be real. Norway is a land of heavy mists and dews. The dew of last night hangs on the grasses, on bushes, on trees, on everything. The sun turns all the dewdrops to sparkling, glittering jewels. It brightens the painted gables of the houses which nestle close

Cheese is made in this lonely Norwegian saeter where the cows and the goats are pastured during the summer.

James Sawders



James Sawders

Many small farms lie along the forested slopes of this beautiful but very lonely Norwegian valley.

to the hillsides. Below them are the fresh meadows. Behind them the mountains rise dark and mysterious.

Now everyone is singing Norway's songs. We cannot understand the words, of course, but we hear one line over and over. Ragna says it means, "All's bright before and behind me."

All too soon we come to the brook where we are to turn back. We wait to see how the animals will get over the brook. It is swollen beyond its usual size by rains and melting snow.

Trina, the cow leader, walks into the water as if wading a roaring and foaming stream were an everyday matter. The others follow her bravely. The calves have to be coaxed and pushed. The herders coax and push patiently, knowing that it is not an easy matter for a little calf to step into so mighty a stream. The horse with the birch baskets does not mind the roaring water. He splashes calmly into the stream.

There is no bridge, but a single tree trunk has been laid across the stream. The goats and kids skip lightly across like tightrope walkers at a circus. It is fun to watch them. They skip along in a very orderly way, one after another, almost as if they were trying to be polite. They do not push or bump each other, and each one balances himself perfectly. The herders gallantly help the women across on the tree trunk.

"What comes after the brook?" we ask, hating like everything to turn back.

"First they will come to a sort of open space in the mountains," Ragna tells us. "There the herders have to watch for the old path, very carefully, lest they get lost. Trina will probably be the first to find it. When the path is found, there is nothing for the herders to do but to follow it. By and by they come to a little green meadow. Across this meadow there is also a path. There must have been a mountain farm or a pasture land there at some time, Father says. That was a long time ago.

"The meadow is a beautiful place to rest. All the animals will lie down just as if they had been ordered. The horse, of course, will not do so because he is loaded with birch baskets. He seems to understand how important his work is. Yet he will rest, too, by standing quietly or by nipping the sweet grass and the leaves from low bushes. After a rest they will all go on again, following another path until they come to the huts."

THINGS TO DO

Choose any scene from the procession to the mountains for a picture which you may work out in crayons or water colors. Or you may let different groups in the class work out scenes which will all fit together for a big wall decoration.

Compare the picture of the saeter on page 127 with the one of mountain pastures on page 117.

Busy Times in Norway

We follow the brook down to the fiord, which is like the one pictured on the opposite page, and then start back to the farmhouses, which overlook the fiord.

"It is well that you came before haying time," Ragna says. "When that time comes, I shall be too busy for company."

"Do the children help with the haying?" we ask.

"Everyone who is big enough and who is not in the mountains with the herds helps make hay," Ragna answers. "We must raise lots of hay for the animals to eat during the winter. You can see that all this land around here is green with growing hay. When it is ready, the men cut it. Then we help hang it on the long wire racks that you see."

"Why on racks?" we all ask at once. In our country we let the hay dry on the ground where it falls when cut.

"In Norway," Ragna explains, "especially in this part of Norway, we have much rain. It rains a little almost every day. Then there are the heavy dews and the mists. All this moisture makes grass grow thick and tall, but it also makes drying difficult. The farmers have found that the best way to dry hay is to hang it as we do, so that the air and the sunlight may pass through it freely."

"When the haying is done, what do you do next?" we ask Ragna.

"Before harvest time, comes the herring run. You have never heard of a herring run? Herring are fish that live far out in the sea. In late summer they come in near the coast and swim close to the surface of the water. Then the farmers here in the valley become fishermen and go out in boats. They use big, strong nets and catch thousands of herring. Some of these are sold at once. Some are dried here near home for our winter's supply of fish."

We follow Ragna along the fiord to see the fishing boats. They looked like those in the picture on this page.

"Then is the work of the summer over?" we ask.

Ragna laughs at our question. "The work of a farmer who is also a fisherman is never really over," she says. "After the herring run comes the harvest. Then we get in the oats, rye, and barley. We all help with that. We hang the stalks on posts so that the grain will dry well. Later it is threshed in the barn. Wheat

Norwegian fishing boats off the coast north of Bergen. Quantities of herring are caught in these cold waters.

Henriksen from Three Lions

does not grow well in this country because the season is too short. Only once in a while do we get wheat bread. But didn't you like our rye bread just as well? We like it better than wheat bread."

"And after the grain harvest?" someone asks. "What comes next?"

"Then comes the potato digging," Ragna says. "We enjoy the other work, but the potato digging is really hard. By that time we are likely to have had more rain, much rain. Sometimes we have to dig in the mud, and it's wet and cold and unpleasant. But we need the potatoes for winter, so there's nothing to do but dig them. They won't come out of the ground by themselves. Neither will the carrots and turnips and all the other root vegetables.

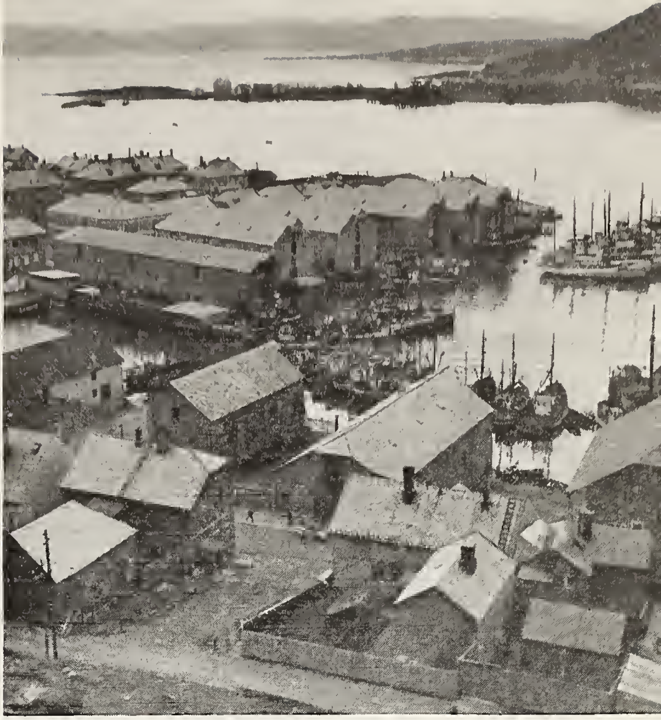
"Before all the crops can be stored away," Ragna goes on, "it's time for school again. And soon the snow and the ice come, and the skiing and skating, and then there are good times for all of us. In winter there isn't much farm work to do except to look after the animals. Winter in Norway is fun if you don't mind the cold."

The Midnight Sun

We are off for the land where the sun shines at midnight. The skies are gray with clouds as we board the steamship that will take us there. The sea is gray, and a light, misty rain is falling, so that even the air looks gray. It looks as if the whole world had turned gray.

We don't care how much it rains, for we are snug and dry in our new waterproof coats and rain hats. And we don't care how gray the world looks, for we are off on a new adventure.

As our ship steams northward, we see hundreds of fishing boats swarming around the shores of Norway and the near-by islands. When we visited Greece, we were told that the mountains there had pushed many men into the sea, making them fishermen or sailors. Now, as we pass one boat after another, all heavily loaded with fish, we think that the mountains of Norway have also pushed many men into the sea.

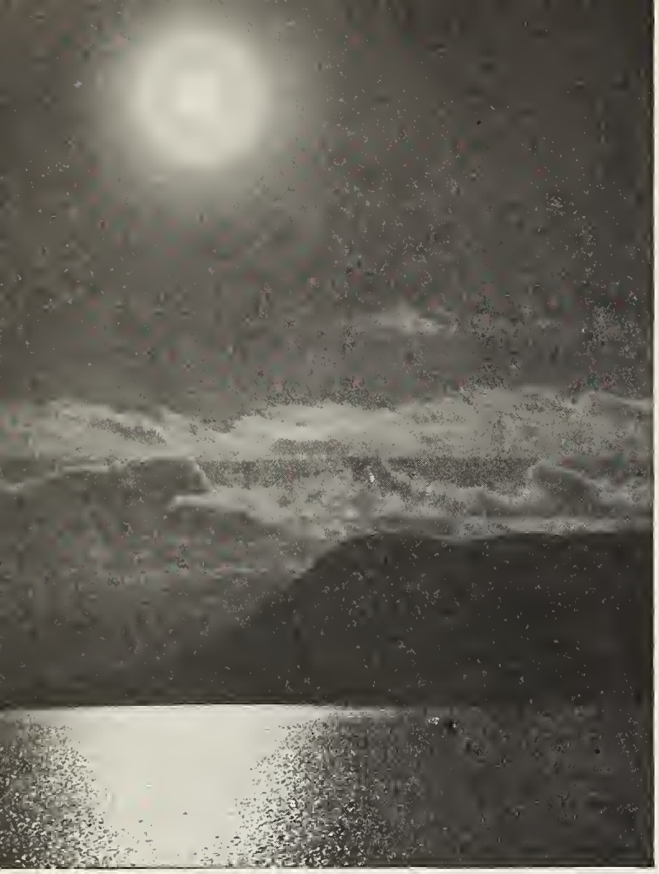


Three Lions

Hammerfest, Norwegian fishing center, is nearer the North Pole than any other city in the world.

On and on steams our ship through the gray, misty rain. We stand on the deck and watch the great gulls winging overhead. Now and then we catch glimpses of little islands that look as if they were adrift in the water. Now and then we go close enough to the shore to see the rugged cliffs rising above the fiords. Our ship stops at some of the little fishing towns. They look dreary and far away from the world that we know. Yet to the people who live there each town is an important part of the world.

We steam along for several days and come at last to Hammerfest, which you see in the picture on this page. It is a small city of several thousand people, in the far northern part of Norway. It is farther north than any other city in



Ewing Galloway

During the summer many tourists visit North Cape to see the sun still shining in the sky at midnight.

the world. Why should there be a city away up here in the bleak, cold North?

The captain of the ship answers our question. Hammerfest is here because of the fishing industries. The catch of codfish alone is enormous. Nearly all the people of the city are in the fishing business in one way or another. Some go out to sea to catch the fish, some do the canning and drying. Much cod-liver oil is made in the factories. The whole town smells of fish.

Our ship docks at the harbor and we have time to walk through the city. The factories, the shops, the churches, the movie theaters, the schools, the homes, all are of lumber. Some of the homes are very pretty and look ever so comfortable. All the buildings are lighted by electricity. They have been lighted so for many, many years, we are told.

This city had electric lights long before some larger towns in our own country had them. This seems a little strange to us, but it is true. The electric power is furnished by the waterfalls near the city. Electric lights are very important to the people here because the sun does not show its face for two whole months of the year.

There are fine automobiles in the streets, and we see many people dressed in up-to-date styles. Their automobiles, clothes, and many other things are brought from other parts of the world.

We board the ship and steam on again. Presently we come to a point of land which extends out into the water. Such a point is called a *cape.* The name of this one is North Cape. We shall always remember its name because it is farther north than any other point in Europe.

Thousands of people come to North Cape every summer to see the wonderful midnight sun. Though it has been explained to us again and again, we find it hard to believe that the sun shines anywhere at midnight. Now we shall see for ourselves. This is not the only place in the world where the midnight sun may be seen. But it is one of the most beautiful and comfortable spots in the world from which to view such a sight.

The captain of our ship has told us that the best place to watch the midnight sun is from a high cliff on North Cape overlooking the sea. We make our way to the top of the cliff, which is shown in the picture on this page, and sit there with other people from the ship. As soon as we get our directions straight, we see that the sun is shining far to the north. It is midnight.

Off and on all through the next day we climb up the cliff and watch the position of the sun. In the morning it is in the east. At noon it is in the south. In late afternoon it is in the west, and at midnight it is in the north again.

THE PEOPLE OF LAPLAND

We want to know about the people who live within the Arctic Circle. We ask questions of a passenger who looks very much like one of the wise professors whom we met months ago in the desert. We have been telling him about the other lands we have visited, and now we ask about the people of the Far North.

"You weren't thinking of visiting these people, were you?" the passenger asks. "If you were, I would advise you not to attempt it. You see it is very difficult to find them at home. The people who live in the country around here are Lapps. They keep great herds of reindeer. They follow their herds from one place to another to find good grazing, so it is convenient for them to live in tents. They are here today and gone tomorrow."

"Do they live like the Bedouins in the Sahara?" we ask.

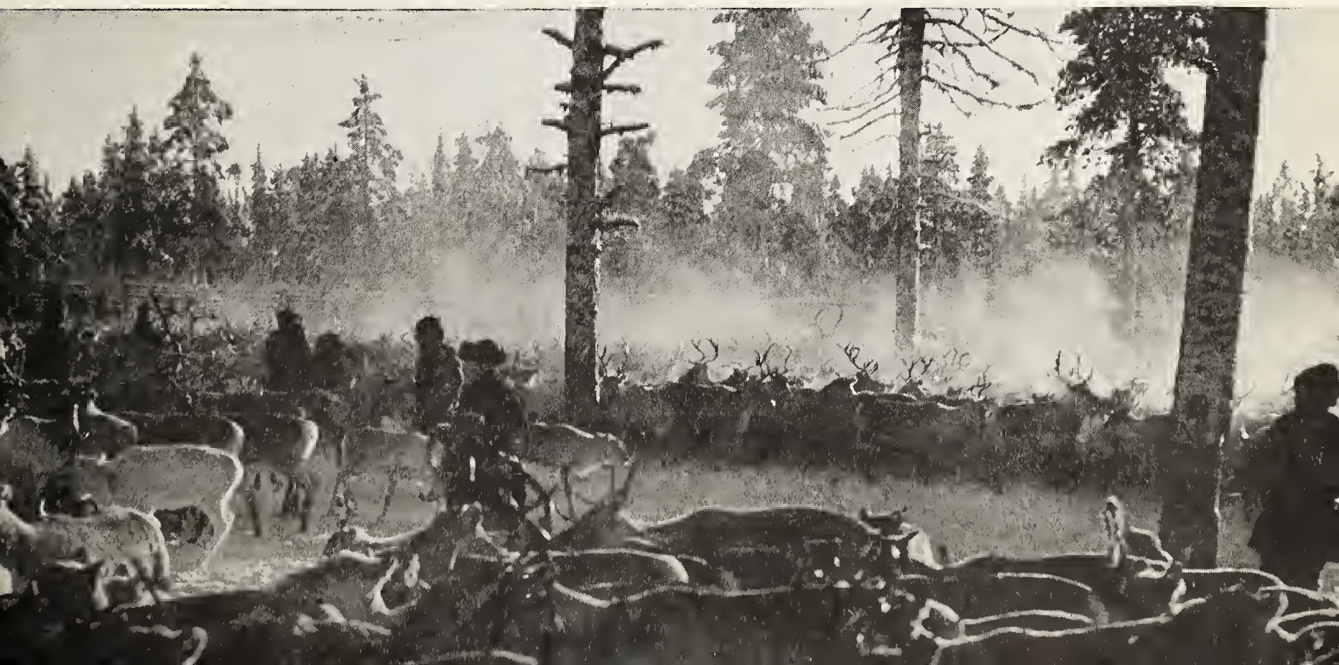
"Something like that," the passenger answers, "but not exactly, of course. The climate is different from that of the Sahara, so the people live differently. I will tell you what I know of the Lapps, if you wish." This is what he told us:

The Lapps live in the northern part of Norway, of Sweden, of Finland, of Russia. They really have no country of their own as we have a country. But they are free to live in the region of the Arctic Circle wherever they please. Exactly how long they have been living there, nobody knows.

Many of the Lapps make their living by raising and caring for reindeer. A Lapp is rich or poor according to the number of reindeer he owns. Even the poorest Lapp may own as many as twenty-five of the creatures. The richest Lapp has, perhaps, a thousand in a herd, like the one in the picture below. The Lapps eat the flesh of the reindeer and drink its milk. They also make cheese from reindeer milk. They use the skins for clothing as well as for tent coverings. On page 134 is a picture of a Lapp wearing clothing made of reindeer skins. The Lapps make useful articles of the horns and the bones of the reindeer, too.

Reindeer roundup. Thousands of reindeer belonging to the Lapps are brought together in this huge pen.

Three Lions



Three Lions

This Lapp wears warm clothes made from the thick reindeer skins. Notice his shoes and his mittens.

During most of the year the ground in Lapland is covered with snow. By summer the snow has melted. Leaves come out on the trees, and grass grows on the slopes of the mountains and hills. Some of the mountains are so rocky that nothing will grow on them.

The Lapps choose the best lands for their summer tents and stay there until fall comes or until the reindeer have eaten all the grass. Sometimes several families live together and move together, but each family has its own tent. You saw one of these tents in the lower picture on page 8.

The tent is made simply by stretching cloth or reindeer hides over poles which have been set firmly in the ground. The floor of the tent is the earth. It is made more comfortable by a covering of leaves and twigs from the birch trees. There is no furniture in the tent. Skins of the reindeer are used to sit on, and they also serve as beds.

The cooking is done over a fire made on flat stones in the center of the tent. The smoke goes up through a hole at the top. The hole is rather small, so some of the smoke stays in the tent. The Lapps are used to having smoke in their eyes and don't mind it much. They have no cupboards for dishes because they have no dishes. They eat from the kettle in which the food has been cooked, using their fingers as forks. Sometimes they use plates of a sort made from the bark of the birch tree.

Stew made from the flesh of the reindeer is a favorite dish. Cheese made from reindeer milk is another. This cheese is made very simply. Milk is kept in a bag made of reindeer skin until it sours and becomes very thick. Then it is heated and poured into a wooden bowl where it slowly turns into cheese.

Sometimes the Lapps go to one of the small towns or trading posts in their region to sell hides. Then they buy sugar, bread, salt, and coffee, which they like very much. They don't buy much of anything else at the stores. Why should they? The reindeer and the birch trees supply them with everything else they need.

The baby Lapp has the coziest kind of cradle, made from the bark of a birch tree, as you see in the lower picture on page 135. It is shaped something like a boat, and it is lined with soft feathers of birds. Several straps of reindeer hide are attached to the cradle. By these straps the mother may hang her baby on the wall of the tent at a safe distance from the fire. Or she may carry the baby on her back by fastening the straps of the cradle over her shoulders.

The Lapp women make clothes of reindeer skins for the family. Once in a while they buy an article of clothing, such as a sweater, at one of the stores. Two months of the summer, July and August, are quite hot. In those months clothing of skins is uncomfortably warm. But in winter everyone wears several suits, one on top of another.

When winter comes, after the very short summer, the Lapps look for the right kind of forest in which to set up their tents. They choose a forest of fir and birch. The fir trees are a good protection against the cold winds, and the birch trees supply fuel.

In such forests the ground is covered with a kind of moss called reindeer moss. The grass cannot grow in severe weather, of course, but reindeer moss grows all winter even under the snow. The reindeer are very clever at finding the moss. They know where it is by the scent, and when they have found a patch they dig through the snow with their sharp hoofs.

It is all very well for the reindeer to go about through the forests looking for moss. But their wanderings make a problem for their owners. The reindeer may wander away or may be attacked by the fierce wolves of the forest. For these reasons the Lapps keep dogs of a kind that can stand severe cold and can be trained to guard the herds.

Moss grows very slowly after having been nibbled, and pastures once closely cropped are not useful again for ten years or more. That is why the Lapps have to choose a home carefully, and why they may not come back to the same place the next winter. Sometimes a place which seemed good turns out not to be. Then the Lapps move on, even though the snow may be deep and the wind cold.

Three Lions

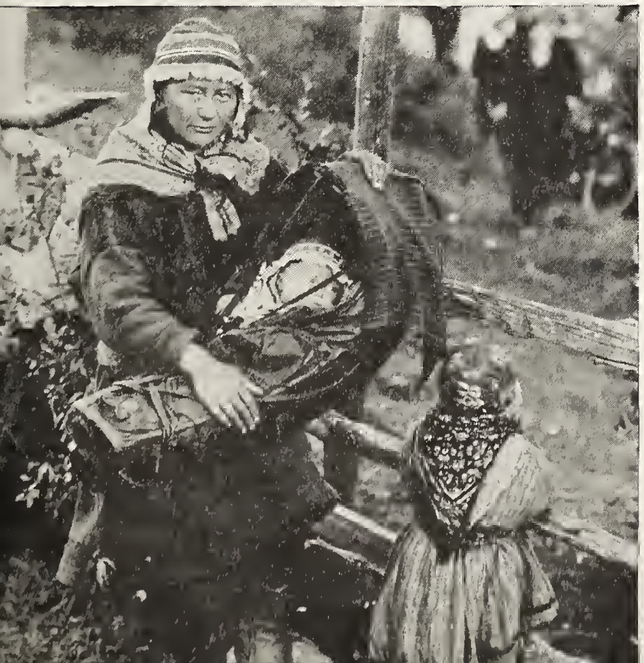
The reindeer is the most valuable possession of the Lapps. This man uses his to draw the sled.

You see in the picture above that sleds are used for the moving, with reindeer to pull them. A few reindeer of every herd are trained for this purpose. One reindeer is harnessed to each sled, and then several reindeer are harnessed lightly together, one in front of another. If there are several families living together, there are several strings of reindeer. A Lapp on skis leads the first reindeer of each string to the new home. The women and children ride on the sleds. The dogs follow and help bring along the herds. Away they go, the cold winds and the snow stinging their faces like hundreds of needles.

The Lapps are very clever at handling reindeer. Many years ago the United States bought from Russia a part of North America called Alaska. The people of the northern part of Alaska are called Eskimos. Though the land in this northern country is much like Lapland, the Eskimos had no reindeer. They used dogs to pull their sleds over the snow.

Cradle used by Lapps. It is light and strong and comfortable. Notice how these people are dressed.

Philip Gendreau



Buch from Pix Publishing, Inc.

A Lapp boy learns to carve many useful articles.

It was decided that a part of Alaska should be stocked with reindeer. The government of the United States employed a number of Lapps to go to Alaska to care for the reindeer and to teach the Eskimos how to care for them. The Lapps were good teachers. And the Eskimos were good pupils, for they learned their lessons so well that now they have herds of reindeer, too.

Snowshoes and skis are very useful to the Lapps in visiting trading posts and in herding their reindeer. Some people believe that the Lapps invented skis. Whether they did or not, they use skis very skillfully. And their children practically grow up on skis.

Not all the people of Lapland make their living by caring for reindeer. Some of those in the Far North live by fishing and hunting. These are known as the coast Lapps because they have fixed homes in tiny coast villages. Some of their homes are crude huts of birchbark. Others are tents of cloth or skins.

The coast Lapps have schools where their children are taught to read and write and to make things with their hands, as the children in the two pictures on this page are doing. They make toys, knife handles, and other articles of bones and horns. They weave baskets of birchbark. Such things are often sold to travelers who visit their land or to the stores in the villages. The children also learn about the plants and animals of the Far North.

Schools are not practical for the wandering Lapps. But sometimes when several families are living together they manage to hold school in one of the tents for a time.

The Lapps cannot go often to church, either, living as they do. Yet a few times each year they drive many miles to a plain little church and spend a few days in prayer and song and in listening to sermons. They are very religious, even though they can't always go to church. And the Lapps are extremely honest in their dealings and in keeping their promises.

These little Lapp girls are busy learning to sew their own clothes and to weave trimming for them.

Buch from Pix Publishing, Inc.

THE GEOGRAPHY WORKSHOP

On your visit to the Land of the Midnight Sun you learned how people live in northern lands. The Geography Workshop will help you understand these regions better.

THE MIDNIGHT SUN

All the land which lies within the Arctic Circle is in the Land of the Midnight Sun. This means that there is a period of time during the summer when the sun shines all the time. There is a period of time during the winter when the sun never shines. Right on the North Pole the sun shines all the time from March 21 to September 21. How many months of sunshine are in that period of time? Name the months.

During the other half of the year the sun does not shine. On what day in September does darkness begin? On what day will the sun shine again? Name the months of darkness. Of course, darkness does not come all at once. The sun's position in the sky gets lower gradually.

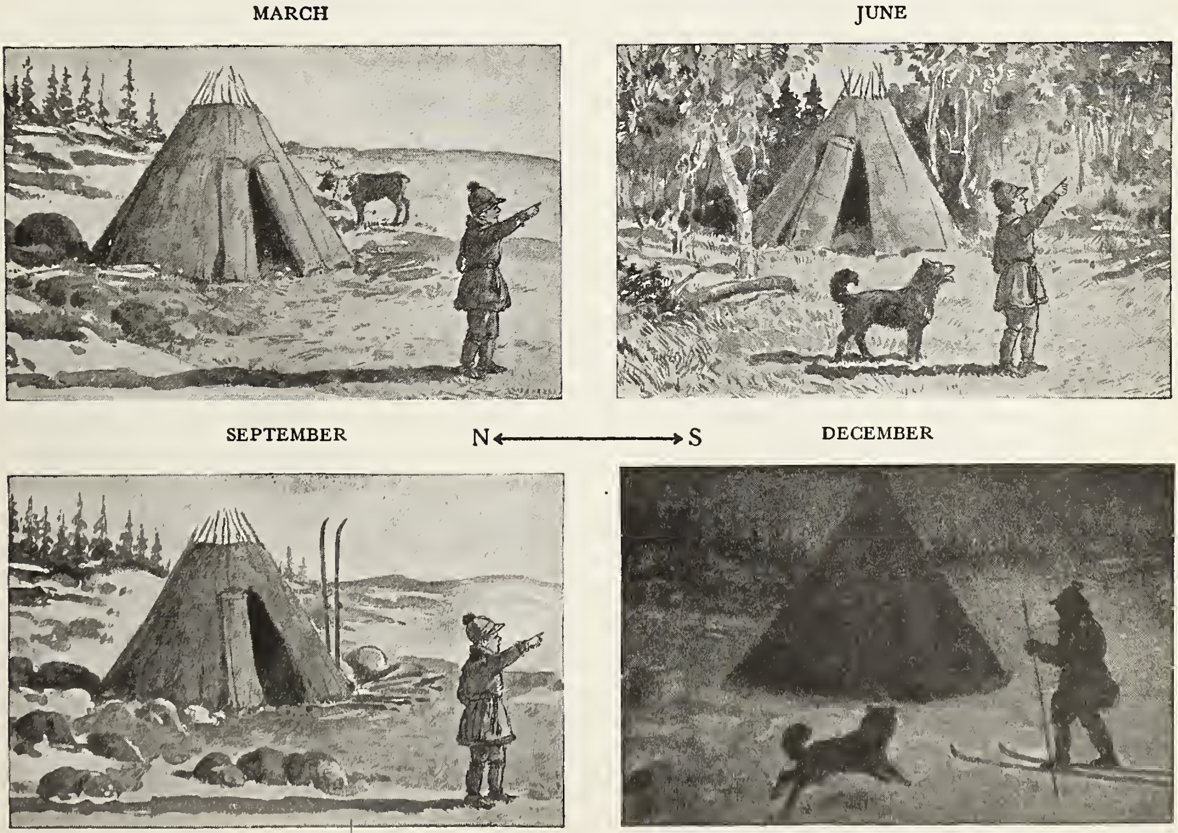
How many months of darkness does the city of Hammerfest have? Does Bergen have any months when the sun does not shine? Why or why not?

There are six months of daylight and six months of darkness at the South Pole. These periods begin at exactly opposite times of the year from the time they begin at the North Pole. Can you find out for yourself at what times they begin? If not, your teacher will help you.

THE NOONDAY SUN IN LAPLAND

Study the pictures below which show the little Lapp pointing to the noonday sun at different times of the year. Notice that the shadows differ in length in the pictures. Which picture shows the shortest shadow? Why? Why is one picture dark?

Boy in Lapland pointing to the noonday sun at different times of the year.


MARCH

JUNE

SEPTEMBER

DECEMBER

A PUZZLE FOR YOU

On what date does spring come to your own land? Do you see any connection between that date and the coming of light to the North Pole?

On what date does fall begin? With what other date does that compare?

QUESTIONS TO ANSWER

1. At which season of the year would you rather visit a Norwegian farm, summer or winter? Why?
2. Would you enjoy a summer at a saeter? Why or why not?
3. Do you think it unusual for Hammerfest to have electric lights? Why or why not?
4. What is the name of the cape from which we saw the midnight sun?
5. From that cape, what was the position of the sun at midnight?
6. Do the Lapps go back to the same spot in the same forest winter after winter? Why or why not?
7. Which do you think is easier, the life of a reindeer Lapp or the life of a coast Lapp?
8. Why were certain Lapps paid to go to Alaska on our own continent some years ago?

FINDING THE RIGHT ENDINGS

Three endings are given for each sentence below. Only one of the three is right. Choose the correct ending for each sentence.

1. In Norway a mountain pasture is called
   - *a.* a cape.
   - *b.* a field.
   - *c.* a saeter.
2. The coldest part of Norway extends
   - *a.* beyond the Antarctic Circle.
   - *b.* beyond the Arctic Circle.
   - *c.* beyond the equator.
3. The places where the sea has filled up the valley between steep mountains are called
   - *a.* fiords.
   - *b.* gulfs.
   - *c.* capes.
4. The farmers in Norway live
   - *a.* some distance from each other.
   - *b.* in villages.
   - *c.* in cities.
5. During part of the summer in northern Norway the sun shines
   - *a.* about eight hours.
   - *b.* a short time during the middle of the day.
   - *c.* all night.
6. Farm animals are kept in pastures in the mountains
   - *a.* in the winter.
   - *b.* in the summer.
   - *c.* in the fall.
7. In Norway hay is hung up to dry
   - *a.* because the ground is often wet.
   - *b.* so that it can be gathered more easily.
   - *c.* because it looks neater.
8. The city that is farther north than any other city in the world is
   - *a.* Bern.
   - *b.* Paris.
   - *c.* Hammerfest.
9. A point of land which extends out into the water is called
   - *a.* a fiord.
   - *b.* a cape.
   - *c.* a gulf.
10. The coast Lapps are
    - *a.* farmers.
    - *b.* herders.
    - *c.* fishermen.

A PICTURE SHOW

If you have collected pictures showing scenes in the countries you have just visited, plan a picture show.

BOOKS TO READ

Happy Times in Norway, By Sigrid Undset, is just what the title suggests. It is a story of a Norwegian family and the good times they had. *A Norwegian Farm*, by Marie Hamsun, is also a story of a Norwegian family. Four children and their friends have glorious times in the mountains. The two books *Ola* and *Ola and Blakken*, by Ingri and Edgar P. d'Aulaire, are together a fanciful tale of a Norwegian child. *Snow Baby*, by Josephine D. Peary, is a good story of the cold North. *The Top of the World*, by Alice Crew Gall and F. H. Crew, is a story of polar regions.

Philip Gendreau

Rice fields in Java. The water buffalo is the chief work animal in lands that raise large amounts of rice.

On the Other Side of the World

FROM ARCTIC OCEAN TO SOUTHERN SEAS

There we sat at North Cape, almost at the top of the world, if the world had a top. We had seen the sun shining at midnight, low in the sky. We had heard about the wandering Lapps in this part of the world. Now we wanted new adventures, but we didn't know where to find them.

Straight to the north was the North Pole, over Barents Sea and over immense stretches of snow and ice. We knew we should never be able to find the North Pole even if we could have made the dangerous journey. We are not arctic explorers.

West of us was the sea over which we had come from Bergen. We could have gone back to Bergen, but there would have been no new adventure in that.

Straight to the south of us was a large country called Finland. It is a land of fir and of birch. This was once a land of vast glaciers, and thousands of lakes were made by the glaciers. The Lapps wander over the northern part of Finland with their herds of reindeer. It is a difficult country to visit.

East of us was more of the sea. What would we find beyond it? The captain of our steamship answered our question. "If you go to the east," he said, "you will come to Murmansk, a city something like Hammerfest. Beyond Murmansk lies more sea, a cold, icy sea. Don't try to sail it. You wouldn't find it much fun. Instead, get into one of those great roaring airplanes which take off from Murmansk. Fly to the southeast over Asia, the largest of all the continents. You'll have a long journey.

"If you ever get tired of sailing the skies," the captain went on, "it will be when you fly over Asia. You'll think there is no end to the land. You have no idea how big, how immense that continent is until you have flown across it. Then you are too tired to care."

"What shall we see as we fly over Asia?" we asked.

"After leaving Murmansk," the captain replied, "you fly over a flat stretch of land called a *tundra.* The tundra is very uninteresting because there is not much to see on it. Part of it is covered with bogs and marshes in summer. In the winter it is just a great stretch of snow and ice. Really, when you fly over it, you get the idea that you are not moving at all. Everything, everywhere, looks just the same.

"After leaving the tundra, you fly over forests of evergreen and birch trees. You fly over such forests for hundreds and hundreds of miles. Then you come to grass lands and farms. In the spring the grass lands are dotted with bright-colored flowers. When the dry weather comes, the flowers and the grass wither and die. Then everything looks dull.

"At first you are flying over eastern Europe. By the time you reach the grass lands, you are in Asia. By and by you come to a great desert. You begin to think that you have come to the end of the world. You fly for hours and hours in your fast-moving plane. Still you are over the continent of Asia.

"Just as you begin to feel that your journey is never to end, you come to one of the most interesting countries in the world. That is China. And if you are wise, you will stop for a while and visit a part of China called Szechwan. It is also called the Red Basin. There are two reasons why part of Szechwan is called the Red Basin. One reason is that it is shaped like a basin, and the other is that the soil is a dull red color. If you visit Szechwan, you will understand much about China.

"From Szechwan, go to the South China Sea. Stop for a while at some of the islands that are scattered through the sea. Then go to Australia, the 'land down under.'

"See some of the sights in Australia. Then get into a big steamer or a giant airplane and cross the wide blue Pacific. You'll have a long ride. If you are in a hurry to get home, you should make the trip in an airplane. But, however you choose to go, you will reach Canada if you travel in a northeasterly direction. When you get home, tell everyone about the sights you have seen. Half the fun of traveling is telling others about what you have seen and what you have done."

THINGS TO DO

Find out what sorts of airplanes fly over the seas from Australia to the western shores of our own country. Bring pictures of such planes to class.

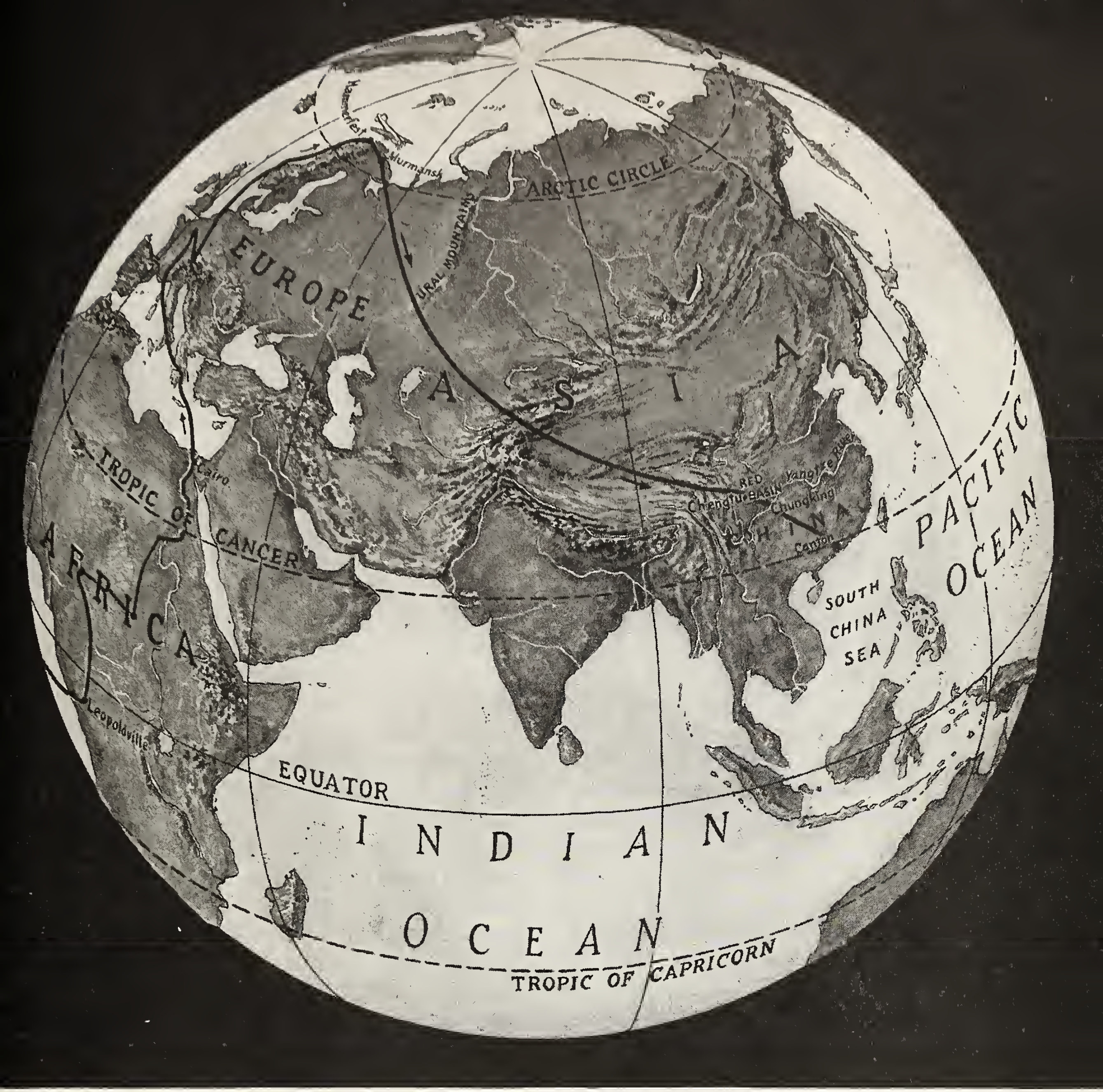
Find out what sorts of ships sail from Australia to the western shores of our own country. Bring pictures of such ships to school. Compare the lengths of time in which ships and planes make the journey.

MAKING THE GLOBE TELL A STORY

Let's trace on the globe the route that the captain planned for us. Find North Cape near the Arctic Circle. Find Murmansk, a little to the east. From Murmansk trace a southeasterly route over Asia to central China, where the Red Basin is. Then trace a route southeast to the South China Sea.

From the South China Sea trace a route among the many islands to Australia. Why is Australia sometimes called an island and sometimes a continent? It is also called an island continent. Why?

Australia is sometimes called the "land down under." This is because our globes are



A picture of a globe showing our route from Hammerfest to Canton.

usually placed to show Australia on the under side of the world. But it is not really on the under side. No part of the world is really "down under."

Did anyone ever tell you that if you were to dig down straight through the earth you would come to China? Did you ever start to dig into the earth in the hope of coming to China? You can see by studying the globe that China is not exactly on the other side of the world from our own country.

Let's prove this fact. Find on the globe an east-west line, north of the equator, marked 30. Now trace this line all the way around the globe. Notice that it passes through the southern part of our own country. It also passes through China.

If you trace this line about halfway around the globe, either to the east or to the west, you will come to China. Thus China seems to be exactly on the other side of the world from our country.

Now find your own home on the globe. Mark it with a piece of crayon. Find an east-west line *south* of the equator which is also marked 30. Put the forefinger of your left hand on the crayon mark.

Now bring the forefinger of your right hand to a place directly opposite. Your finger must be as directly opposite as the North Pole is opposite from the South Pole. You will find that point somewhere near the east-west line marked 30 south of the equator. You may have to move your finger a little to find the right place. When you have found it, the globe will be perfectly balanced between your two fingers.

Notice that the forefinger of your right hand is not in China. It is somewhere in the Indian Ocean. If you really could dig straight down through the earth, this is the part you would reach.

A LAND CALLED SZECHWAN

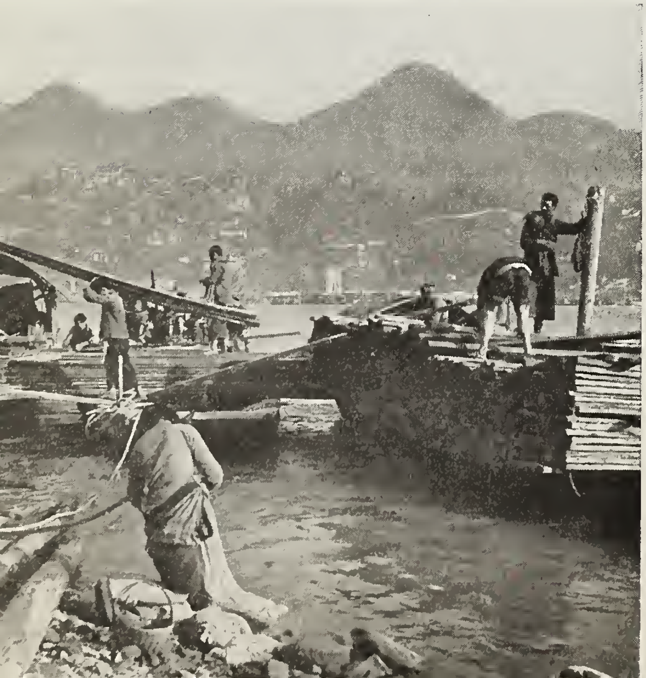
How can we tell of the strange and interesting sights we saw in Szechwan?

As we flew over the Red Basin, we saw the rugged mountains which rise all around it, forming its rim, as you see them in the picture below. And we saw the Yangtze River carving its way along the southern edge of the basin.

Now and then we caught glimpses of ancient high-arched bridges which span some of the smaller rivers that flow into the mighty Yangtze. There are hundreds of these smaller rivers, and they go whirling and swirling along as if they were in a great hurry to join the Yangtze. We wondered how long the old high-arched bridges had stood over the rivers, and we thought they must have been built strong and well.

The Yangtze River in Szechwan where the men are busy unloading lumber from another part of China.

CNS from Paul Guillumette, Inc.



We saw hundreds of boats on the river. The largest of these were houseboats. There are people, we were told, who live in these houseboats all their lives, hardly ever setting foot on shore. Other boats, like those in the picture on this page, were carrying goods of different kinds from one place to another. Some of these boats had red-brown sails to help them upstream against the strong current of the river. Others were being rowed by ten or twelve strong men who chanted strange songs as they pulled at the heavy oars. And some boats were being hauled upstream by teams of men called *trackers*.

In all our travels we had never before seen men doing such work as the trackers were doing. Twenty, or as many as thirty, trackers work in a team hauling the boats up the river. This is the way they work: They tie one end of a long, thick bamboo rope through the tallest mast of the boat. Near the other end of the rope are tied as many short ropes as there are men to work. At the free end of the short ropes are loops which the trackers fasten across their shoulders. Then, as you can see in the picture

CNS from Paul Guillumette, Inc.

Trackers strain every muscle in an effort to pull the boat upriver. The boat does not show in the picture.

above, they walk along the river bank and slowly pull the heavy boat upstream. The trackers must be strong and sure-footed, for the cliffs are steep and rocky and often slippery.

The smallest boats on the rivers have neither sails nor trackers. These are the ferryboats. Two strong men row each ferryboat. Day after day, year after year, they ferry people from one side of the river to the other.

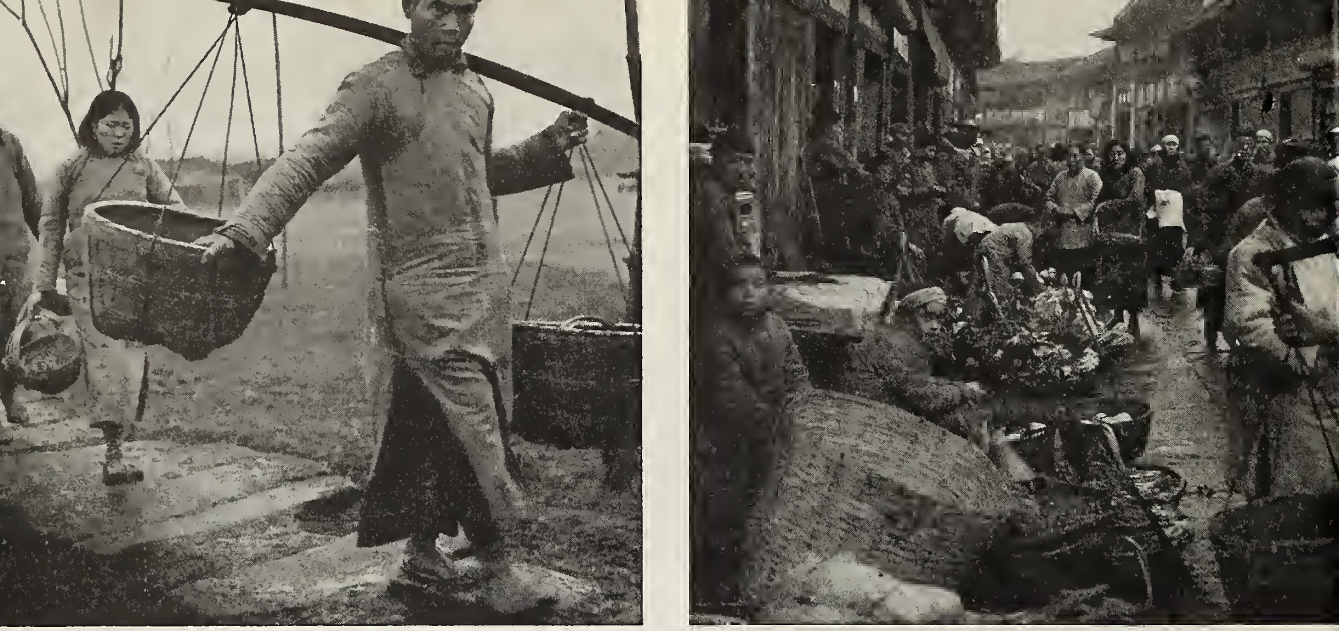
As we came down in our airplane, we saw rugged mountains and deep valleys. We saw mile after mile of hillsides terraced to the very top, green with growing crops. We saw men, women, and children working in the fields. The roads, too, were lively with people. Farmers were taking their pigs and their oil, tobacco, oranges, and other crops to market. Some of the farmers used wheelbarrows, and others used carrying poles with baskets hung from the ends, like those in the pictures on page 144.

The market village, shown in the second picture, was so crowded with people that we could scarcely squeeze through its one narrow street. People stood arguing and talking over the prices of goods. We wished we could have understood what they were saying, but we knew by their manner what they were talking and arguing about.

Everywhere, everywhere, in the Red Basin there are people. People along the narrow paths, people in the fields, people in the market villages, people along the river banks, and people in boats. Everywhere, everywhere, there are people. How can we tell of all these people? We shall tell of the farmers, because most of the people of Szechwan are farmers.

The Farmers of Szechwan

We learned that a few of the farmers of Szechwan, like the farmers of some of the other countries we have visited, live



Photos CNS from Paul Guillumette, Inc.

Market day in Szechwan. Farmers for miles around bring their products to sell on the streets of the village.

in villages. But most of them live on the land which they farm. Their houses stand close together, however, because their farms are small. Near their homes are bamboo groves. These groves give to an almost treeless plain the appearance of being well-wooded.

The farmers are hard-working men. They have to work hard to get enough food from their tiny farms. These people are not very large and not very tall and they are certainly not fat at all. They never have enough food to grow fat. If they have meat to eat once a month, they consider themselves fortunate.

Their skin is a reddish-brown like the earth which they work so faithfully. We had always thought that all Chinese have a yellowish skin. Now we know better. It is only the Chinese people who live indoors much of the time who have a yellowish skin. The faces of farmers and of other outdoor workers are tanned a deeper color by the hot sun and the wind. Their straight black hair is not often carefully combed. It is more likely to be rather rumpled. Their small, dark eyes are deep-set.

The men wear blue cotton trousers, tied around the waist, and long blue cotton gowns. When they are working in the fields, they tuck the gowns into the waistbands of their trousers. Sometimes they take off the gowns, and often they go barefoot. Sometimes they wear sandals of rice straw or of grass, tied on with strips of cotton cloth.

The wives of the farmers wear long blue cotton trousers and loose cotton shirts which come down wide to their hips. They wear black cloth shoes with soles of many layers of cloth pasted and sewed firmly together. Little boys dress like their fathers, little girls like their mothers. Because the indigo plant grows well in the Red Basin, blue is the color most frequently used.

Garments of cotton are not very warm. When the winter wind blows cold from the mountains, these garments are not warm enough. Yet cotton cloth is the only kind which the farmers of this region have. No sheep are raised, so there is no wool. Of course there is silk in China, but silk is much too expensive for the poor farmers to use.

The women have learned to give more warmth to cotton by quilting fluffed cotton fiber between two layers of cloth. In cold weather everyone wears quilted garments. Children often wear several gowns or pairs of trousers, one on top of another, for warmth.

What sort of homes do the farmers live in? Half the houses of Szechwan have walls of earth, packed firmly. The roofs are of rice straw, tied in small bundles and overlapped as shingles are overlapped. Such roofs are called *thatched* roofs. The earth, packed down firmly, serves as the floor. Doors are of wood and have heavy bars which can be fastened securely at night.

Windows of glass are not used in Szechwan because glass is too expensive for such use. The window spaces are filled in with wood in pretty crisscross patterns, called latticework. Red-and-white paper is pasted on the inside of this latticework to keep out the dust and the summer heat. The paper is not transparent, but it does allow light to shine through. Sometimes, if the lattice pattern is big enough, birds or flowers or waving bamboo branches are painted on the paper.

Most of the houses in the towns and the market villages and some of the farmhouses, too, are made of split bamboo. This is woven into a strong framework like a stiff mat and then plastered on both sides with mud. Strong wooden pillars and crossbeams support the roof, which is thatched.

Very few trees grow in the Red Basin except in the courtyards of the ancient temples, so the lumber used in the houses must come from some other part of the world. Where does it come from? Every springtime, when the mighty Yangtze brings snow waters from far-off Tibet for the crops of Szechwan, it also brings lumber. Trunks and branches of trees are carried along on the strong river current. Every bit of such lumber must be carefully saved because it is so scarce.

Years and years and years ago there were forests all over the hills and mountains of Szechwan. But these have all been cut down so that more land can be used for crops.

The furniture in the houses is of the simplest kind. The bed is a rough wooden framework with wooden bedboards. Rice straw covers the boards, and a finely woven mat of bamboo is spread over the straw. The bedding consists of very wide bright-colored quilts lined with cotton fiber as the winter garments are lined, but much thicker. Each person wraps himself in such a quilt and lies down on top of the bamboo mat to sleep. In the daytime the quilts are rolled up neatly and laid near the wall.

The stove is nothing more than a wide-topped iron pan set into a base of dried mud. The table is a very simple affair and so also are the low stools which are used to sit on.

Until lately most of the farmers of the Red Basin had never heard a radio. They didn't even know that there was such a thing. Electric radios cannot be used in the farmhouses because there is no electricity on the farms. But now and again a radio will be heard in one of the larger villages or towns where there is electric power. Or perhaps a battery set has been brought in.

The people are very curious to hear what comes over the radio. Of late they have been eager to hear the news, for they want to know what is going on in their own country and in the great outside world. The more they hear, the more they want to hear.

How do the farmers light their homes if there is no electricity? They burn oil in lamps which have been used, perhaps, for hundreds of years. The oil lamps are different from anything we have ever seen before. They are like the lamp you

CNS from Paul Guillumette, Inc.

This old-fashioned oil lamp is still used in far Szechwan wherever electricity is not to be had.

see in the picture above. It looks like a tall candlestick with an open saucer set on top of it. Rapeseed oil is burned in the saucer by means of one or two wicks made from the dried pith of reeds. These wicks float in the oil. The plant which produces rapeseeds is grown on nearly all the little farms.

Farming in the Red Basin

Many farms of the Red Basin are no larger than the ordinary schoolyard in your own country. But each farm, small as it is, must feed a whole family. The family is large, for each son takes his wife to his father's home to live there. Thus father, mother, children, grandchildren, uncles, aunts, and cousins often make up a family, all under one roof. So many people to be fed from such a small piece of land! No one dares to waste even a scrap of food.

No matter how careful the people of Szechwan are, there are times when they do not have enough to eat. Chinese people have long greeted each other with the words, "Have you eaten?" For rich folks the greeting may be only a kind of politeness, as "How do you do?" in our country is a kind of politeness. But among the poor people the question is often a real one.

It is fortunate for the farmers that the Red Basin has a warm climate and a fertile soil. Four different crops can be raised in one year at different seasons, and sometimes as many as six different crops can be raised.

Rice grows well in Szechwan, so it is the chief food of the people. It is raised in summer. Wheat is the principal winter crop. Wheat flour is made, not into bread, but into tiny noodles. These slippery little goodies are used in soups or are cooked with vegetables. Sometimes, too, noodles are baked dry and are eaten with a sauce made of vegetables.

Sugar cane and cotton grow in the same season as rice. Vegetables, like those in the picture below, are in-between crops. In fact, vegetables are growing in the Red Basin all the time, somewhere. Wherever there is a little space, seeds are sown or plants are set out.

Red peppers are also raised in almost every courtyard. Ginger plants may be seen growing almost everywhere. Squash,

When these baskets are filled with cabbages, the worker can carry them balanced on his shoulders.

CNS from Paul Guillumette, Inc.

pumpkins, and cucumbers are trained to grow up the walls. Often we saw big yellow pumpkins ripening on top of the roofs. Soybeans and lima beans are planted on the edges of the raised path, ten inches wide, between the rice paddies. Rape is a main crop in many places. It blooms in April with a burst of yellow flowers which look for all the world like sunshine.

All the work of farming is done by the farmers themselves and their families. You may wander for miles over the Red Basin without ever seeing a horse or any other work animal. Here and there in the rice fields you may see a water buffalo drawing a plow through the mud. The farmer guides the beast by means of a strong rope which is knotted through an opening in the animal's nose.

Water buffaloes eat the grass that grows in the streams. A horse would have to be fed on grain or hay raised in the fields. The buffalo is a big, fierce-looking beast, but he is really quite gentle. There is one peculiar thing about his manners, however. His skin must not be allowed to get perfectly dry. If it does, he is likely to turn almost crazy with discomfort, and then he is really dangerous.

The children ride the water buffalo out to grass in the early morning. When the day's work is done, they take the great beast to the water hole for his daily bath. They are careful to slide off his back before he enters the muddy water. While he turns over and over enjoying himself, the children collect dry grass or roots for fuel.

All the farmers keep a few chickens. Many farmers also raise ducks. In the late summer, when the rice has been cut and threshed, the paddies are flooded again. Then the ducks are driven to the paddies. They swim among the stubble and get fat on the grains which fell from the rice heads during the harvest.

SOME THINGS TO TALK ABOUT

How large is the ordinary farm in the Red Basin? How does that compare with the farm you live on, or one you know about?

What sort of materials are used for the houses of the Szechwan farmers? Where do these materials come from? Why is no window glass used? Do you think the window lattices are pretty? Are they as satisfactory as glass? Why or why not?

Why is so much blue clothing used by people of the Red Basin? In what other country that you have visited is blue clothing much used?

Why is clothing quilted? Have you ever worn a quilted garment? Was it quilted by hand as the Chinese garments are quilted?

What sort of oil is used in the lamps?

Do you think "Have you eaten?" would be a polite greeting in your own country? Why or why not?

Did you have butter to eat in the Red Basin? Why or why not? Did you have eggs to eat? Did you have steak? Give good reasons for your answers.

Why did you not see any horses in the Red Basin?

What is the most peculiar thing about the water buffalo?

The Rice Crop of Szechwan

In the early spring the farmer cleans out his ditches and repairs the walls or tiny dikes which enclose his rice paddies. Rice is a thirsty plant and must be raised in water. You can see in the picture on page 148 that dikes, or walls, hold the water on the paddies.

The farmers have an old saying about the dikes. It is, "Dig your ditches deep and make your dikes low." The dikes have to be repaired and the ditches have to be cleaned. Otherwise they remain the same year in and year out.

The rice crop depends entirely on water brought through the ditches. The spring rains fill out the wheat ears, but there is not enough rain to make the rice grow well. After the wheat is harvested,

Pacific Press Service from Three Lions

The flooded rice fields lie one below the other like great steps down the hillsides of Szechwan.

the ditches are opened to let in the water, and then the rice is planted.

The water comes from a great ditch or channel which is three thousand years old. This ancient channel brings water from the river and feeds hundreds and hundreds of tiny channels which carry the water from west to east through the thickly settled plain on which the city of Chengtu stands.

The water wheel is the "bringer of water" in farm lands far away from the main ditches. The farmer uses a crude pump made of bamboo and wood to force the water into the smaller ditches. He and his son sit high on top of the pump, pedaling with their feet to turn the paddles that lift the water from the ditch onto the paddy.

The rice seed is sown in beds in the early part of May. In a few weeks, if the ground has been well watered, the plants are large enough to be set into the paddies. Women and children help with this hard work. The women take the plants from the beds very gently so as not to injure the tender roots. The children carry them just as gently to the men in the paddy. The men set them in straight rows in the soil. From a little distance it looks as if they were working in a pond, for the paddies were well flooded before the planting began.

Cultivating rice plants with a hoe is almost impossible because the ground is so muddy. The farmer doesn't often hoe his ground. He toes it. With his bare toes he pulls out the troublesome weeds. With his bare toes he presses the earth carefully around the roots of the plants. You would never believe, without having seen him, how skillfully he does this work. He toes two rows with his right foot and at the same time he toes two rows with his left foot. Thus he is able to toe four rows as he goes slowly down the paddy.

The air is heavy with heat. His cotton gown is wet with sweat. Often he wears no gown at all as he goes along patiently toeing his rows. Rice is so important to him and his family that he dares not stop working, no matter how tired, how hot, how uncomfortable he is.

The farmer reaps his grain by hand. He cuts it with a sickle, gathers it into small bundles, and ties it by hand. For tying the bundles, he uses straw or perhaps long grasses which the children have cut for this purpose. The farmer beats out the grain by striking the rice heads upon slats in the center of a large box or bin.

The straw is carefully stored. It is used for fuel, to repair a leak in the roof, or perhaps to make a new roof. After the paddies are drained dry, women and children pull up the stubble, beat out the earth, and throw the tangled roots into huge baskets tied to their backs. The stubble and roots, like the straw, are also used for fuel.

Tea for the Cups of the World

How can we tell of the beauty of the hillsides when the tea plants are blossoming? How can we describe the lovely white flowers that burst forth almost overnight? How can we tell of the fragrance that comes down the hillsides at blossoming time?

We haven't the words to tell of such beautiful things, so we shall tell of the tea plant, of how it is raised, of how the leaves are picked and how they are made ready for use.

We shall begin with the tea plant itself. It is an evergreen shrub not more than five or six feet in height. If left to itself it would grow skyward to a height of twenty or thirty feet. But the farmer keeps the shrub carefully pruned, so that it spreads out and thus grows more leaves.

Like all other farms of the Red Basin, the tea farms are usually small. Like all other farms, they are well cared for. The young shrubs are cultivated, fertilized, and protected from harmful insects and from blight.

Though the plant is an evergreen, new leaves come in April. Only a few of these leaves are picked at a time. To strip the tree of all new leaves would be wasteful. The April leaves, which are of fine flavor, are sold to the rich people in the cities. They are not often sold to other countries because the Chinese believe that the people of other countries don't know the difference between really fine tea and just the ordinary kind.

The second picking, which is the important one, takes place in May. Then the hillsides come alive with women and children. They pick the leaves that are just right and put them into great baskets which are hung across their shoulders. Even the children soon learn which leaves to pick and which to leave on the plants.

A third picking takes place late in the summer. Now the leaves are neither so green nor so tender as they were earlier. Part of the third crop is sold to the poor people of Szechwan, but much of it is sent to other parts of the world.

Most farmers of Szechwan do not have enough land to have tea farms on anything like a large scale. But many of them have planted a few shrubs on a bit of hilly ground and give the plants the best of care.

When Work Is Done

Doesn't the farmer of Szechwan have any good times at all? Doesn't he ever amuse himself?

Yes, he gets his pleasure with his family when the work of the long day is done. He sits in his courtyard and watches his children at play. Sometimes he plays with them, especially on holidays. One favorite holiday time is that which comes when the wheat is growing and the rice planting is still to come. Then kites of all shapes and sizes are flown from the hilltops by men and boys alike, and the air seems alive with the fluttering, wriggling things.

There are very few, if any, books in the farmhouses. But when the farmer goes to the market village he may, if he wishes, go to a reading room where the latest newspapers are to be seen. If he cannot read, he will find someone there to help him. He admires learning in others even if he does not have it himself. And he will listen with interest to any man who has things to tell about other countries, about the long history of China, or about what is happening in China today.

Sometimes, very often in fact, the farmer goes to a teahouse in the market village. There, as you see in the first picture on page 150, he talks with his friends while he drinks ever so many cups of hot tea.

Now and then a wandering show troop comes to a village. Then the farmer and his wife and family, as you see in the second picture on page 150, stand happily and expectantly together in the one

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Szechwan village scenes. Business men exchange ideas over a cup of tea. Children enjoy a puppet show.

crowded street to watch the performers. Puppet shows are very popular with the people of the Red Basin, as they are with people all over China. Acrobatic shows are also popular. Chinese acrobats are very skillful and put on wonderful, breath-taking acts, exciting to watch and exciting to talk about afterward.

There is no such thing as a movie in a Szechwan village. Most of the people have never even heard of a movie. They have seen photographs of people and places now and then. Sometimes travelers go through their country taking pictures of people at work in their fields, on their way to market, or at rest in their courtyards. Photographs usually interest the men, but the women do not like to have their pictures taken.

MORE THINGS TO TALK ABOUT

Why does the farmer build a wall or dike around his rice paddy? What is the old saying about the ditches and dikes? Why do you think this is a wise saying?

How does the farmer toe his rows? Can you show how this could be done?

What vegetables are raised in Szechwan? Compare the Szechwan way of growing vegetables with that on an American farm.

Why doesn't the tea plant grow as tall as it might? How many times in a season are the tea leaves picked? Which picking produces the finest leaves?

What pleasures do the farmers of the Red Basin have? Do these seem like great pleasures to you? Why or why not?

What are some of the things which you enjoy and about which the children of Szechwan know nothing?

Do you think that you work as hard as a child of the Red Basin? Why or why not?

Traveling in the Red Basin

Of all the strange sights we saw in Szechwan, the strangest of all were the ways of traveling. The roads of that region are very rough, narrow, and deeply rutted. Yet, poor as they are, they are important to the people because for many centuries they had no roads at all. There were only footpaths. It is only since 1934 that roads have been built. At present the country has no railroads, though plans are being made to build a railroad between Chungking and Chengtu, two of the largest cities.

Most farmers have never been more than twenty miles from their homes.

Their wives and children have never been that far away from home. When a farmer needs to go any distance from his village, there usually is only one way for him to go, and that is on foot. If he lives near one of the rivers, he may travel by boat. Traveling on most of the rivers, however, is dangerous because of the many rapids.

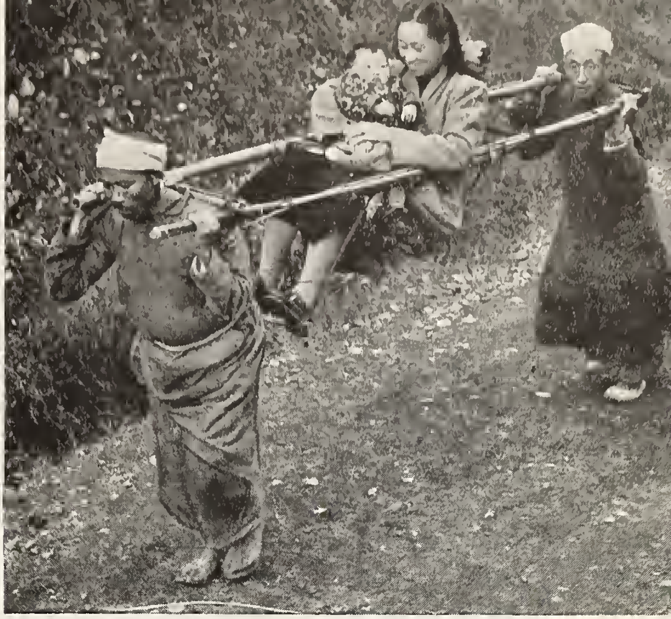
Riding in a sedan chair, like the one in the picture at the right, is one way to travel. Such a chair is set between two long poles which rest on the shoulders of the carriers, or coolies. The traveler sits in the chair and the coolies carry him wherever he wishes to go. That sounds like an easy way to travel, but after riding for some distance the traveler is very uncomfortable.

Traveling by wheelbarrow is another way offered. You see in the bottom picture that a two-wheeled cart, called a ricksha, is also used as a means of traveling. A coolie pulls the ricksha, going along at a little dogtrot. Often, in hilly districts, a ricksha puller will pay a boy a few cents to make the pulling easier by pushing the ricksha from behind.

A Peep at a City of Szechwan

Now we shall tell of one of the cities of Szechwan. We shall tell of Chengtu, where hundreds and hundreds of people hurry along the narrow streets, trotting along at a little dogtrot, hurrying to make a few pennies. Coolies pull carts, push wheelbarrows, and carry great loads on their backs. People make things in the streets, sell things in the streets, mend things in the streets, keep little shops, and do dozens of things that are all strange to us.

Chengtu is enclosed by great walls which have stood for more than two thousand years. In the very center of this old city is another much smaller city, also surrounded by high, thick walls.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The sedan chair is an important means of travel.

This smaller city is the *imperial* or inside city. In past times it was the dwelling place of the great governor who was sent here by the Emperor of China.

Now that there is no longer an emperor of China, the beautiful buildings in which the governor carried on his rule are used as a college. We had never before seen anything like them, with their curved roofs, their red pillars, and their pretty lattices. But although the walled

Many Chinese travel in these man-drawn rickshas.

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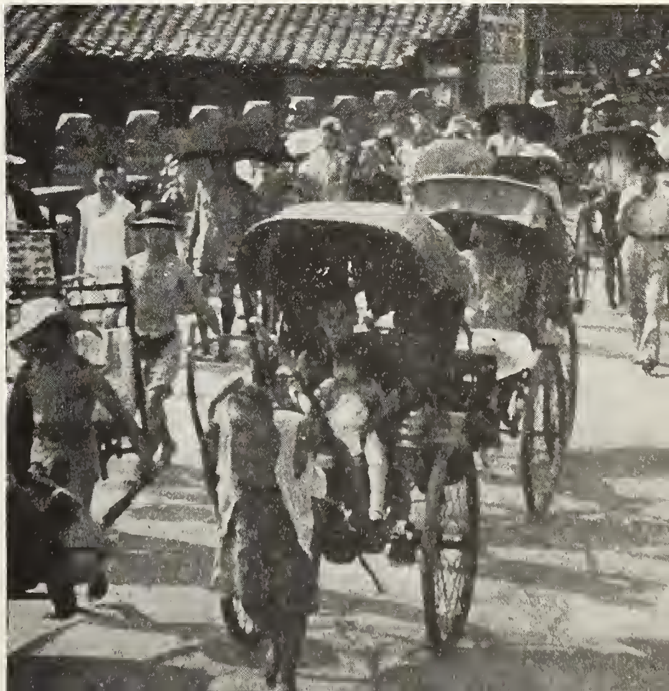

imperial city is very beautiful it is also very dusty and very old. Everything in Chengtu seems old, old.

The streets are narrow and dusty, the houses packed closely together. The sunlight paints the walls and the air a faint yellow, and dust particles always glimmer and glint in the light. At night a pale electric street light casts a weird and mysterious glow.

The fronts of some of the shops are closed with shutter boards at night. When we peered through the shutters, we saw that one feeble electric bulb shone dimly over the goods for sale. Nothing in the shops looked like the things we see in shops at home. Many shops in Chengtu still use the vegetable-oil lamps. Over the doors of most houses oil-burning lamps are hung. Nothing, we decided, in this old part of Chengtu looks like the cities in our own country.

Shall we tell of some of the strange sights of the city?

One day we came upon two shoemakers weaving sandals of rice straw. They had no shop of their own, so they worked right in the street under a big umbrella which kept the hot sun from their eyes. They were in no danger from traffic because neither truck nor automobile could have come down that narrow street.

A candy man in Szechwan blowing odd little candy animals to please the children who buy from him.

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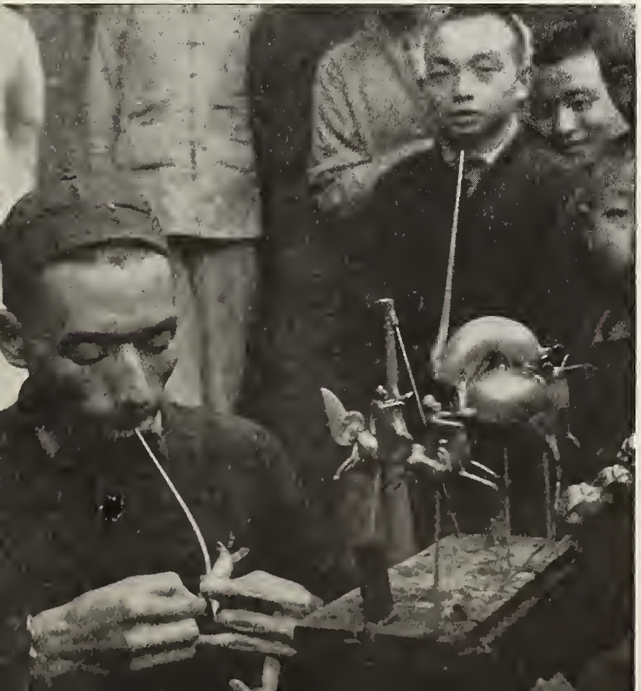


Not far away sat a woman, also under a big umbrella. She was mending a coat for a man who stood waiting. She would get a penny or so for her work. Another woman fried rice cakes over a small charcoal fire, and still another cooked sweet potatoes in hot sirup. Their customers were people of the street who happened to come along.

An old man sold toys from an enormous tray which was held by straps around his neck. There were tiny paper windmills, wheelbarrows of bamboo, and tiny little monkeys carved of wood. The monkeys are supposed to bring good luck and to keep sickness away. One man blew soft molasses candy into wonderful toys, like those in the picture on this page.

A young man mended china by riveting the pieces together with small bits of metal. In our country a broken dish would probably be thrown away. In Szechwan everything that can be mended is mended. Children are taught to mend china, practicing with eggshells.

On one street some women were carrying big baskets of silk to a factory where the silk would be finished and dyed. We were told that the silk had been soaked for hours and hours in the waters of a stream. Cotton is also shrunk in this way.

Often we would see a man telling stories to a crowd that had gathered around him. We couldn't understand what he said, but from the faces of the people around us we knew that the stories were being enjoyed.

Sometimes we saw men giving puppet shows in the streets for the few pennies which were thrown to them. And sometimes we saw children doing acrobatic stunts. One such little boy stood on a platform scarcely half as wide as his thin little body. He balanced himself on his right foot while he brought his left foot high over his head. Then he repeated the performance the other way around. Finally he turned a somersault, landed on the platform, and came up smiling, hand out for pennies.

Another street performer had white mice in a cage. As soon as a crowd had gathered, the boy let the mice out of the cage and put them through their amusing tricks. One mouse tossed a ball into the air with its sharp little nose and caught it again on the tip. One chased its pointed tail around and around over a wheel that turned as the mouse ran. One did a frisky sort of dance. While we were wondering what trick would come next, the boy put the mice back into the cage and held out his hand for pennies.

There is no end to the strange sights to be seen on the streets of the old part of Chengtu. We must tell of one more interesting sight, and that is the street of the silversmiths.

The street of the silversmiths is just what the name suggests. It is a street where people earn their living by making articles of silver. They may make beautiful bowls, or brooches, or buckles, or ornaments for Chinese babies to wear on their black satin caps at holiday times.

The silversmiths learned their skills from their fathers and mothers, who learned them from their fathers and mothers, and so on back for hundreds and hundreds of years. Often a young boy is apprenticed to a skilled workman, so that he may learn from the very beginning how silver is made into various useful or beautiful things. Such a boy lives with the master workman as a member of the family.

In another street not far from the street of the silversmiths were families that made articles of leather. In another were families that made hats, and in still another were families that made baskets of bamboo or cane.

Groups of people who work together in this way are called *guilds*. Men and women who belong to guilds are required to make promises that they will help one another with the problems of their particular kind of work. They also promise to follow a certain way of doing a thing until a better way is found.

If anyone finds a better way of making a thing, he must, by the rules of the guild, show the other members that way. Thus all members are bound closely together. Usually members of a guild have a set price for an article, and it is considered wrong to try to sell under or above that price.

Workers in many countries of Europe used to belong to guilds of the same kind. With the coming of factories the guilds broke up. But in Szechwan there are no factories to speak of. Most articles are still made by hand.

Three streets in Chengtu reminded us of home. They were wide and smooth, and the shops that bordered them had neon signs and glass windows. But there were no trucks or automobiles rolling along. There were only rickshas and wheelbarrows and carts.

Sometime, perhaps, old Chengtu will look more like our cities at home, for China is changing, and it is growing to be more like our part of the world. But it will be many years before the farms of the Red Basin will be anything like the farms of our own country. We are glad to have had a glimpse of that part of China as it is now, and as it has been for hundreds and hundreds of years.

THINGS TO DO

If pictures showing the position of the noonday sun in Szechwan were shown, they would be much like those on page 67. This is because lower Egypt and Szechwan are the same distance from the equator. Is the climate the same? If it is not the same, what difference do you remember?

Find on the globe the east-west line that is nearest your home. Trace it around the globe and see how close it comes to Szechwan. Compare the climate of your own land with what you have learned of the climate of Szechwan. Could six crops be raised during one year in your own land? Why or why not?

Oranges and other fine fruits are raised in the Red Basin. Yet there are no good markets for such fruits unless they are grown near a city. Can you tell why?

CANTON BY THE SOUTH CHINA SEA

There is an ancient city in China called Canton. It is not in the Red Basin, but far to the south and the east of that region. It is sixty miles from the South China Sea, but it has a good harbor on an arm of the sea. The city has also a very fine airport.

At Canton we boarded a plane one morning and sailed away in the skies to a tropical fairyland in the South China Sea. We shall tell of the tropical fairyland, but first we must tell a little about Canton. Circling high over its busy streets and its harbor was one of the most thrilling adventures we had.

We saw the ancient wall which runs around the old part of the city. We could see the narrow streets lined with little houses packed closely together. Long poles stuck out from many windows, and from the poles fluttered shirts and trousers and dresses drying in the sun and the breeze. Was it washday all over Canton? And what a queer way to dry washing! But we noticed that there are no yards between the houses for clotheslines or for anything else in this crowded part of the city, and clothes have to be dried some way.

We could see children running about in the narrow streets, dashing around little carts, around wheelbarrows, among coolies carrying loads. We could see people making things or selling things in the streets. We thought of Chengtu and of the sights we had seen there.

We saw that some parts of the city had wider streets, larger and more comfortable homes. And we could see, dotted all through that part of the city, pagodas with their oddly shaped roofs which curve upward.

Over the new part of Canton we saw quite a different sight. We looked down on wide streets lined with splendid hotels, shops, and theaters. We saw up-to-date factories where silk is woven, factories where paper is made, factories where a certain kind of clay is turned into beautiful pottery.

We flew over the river which leads to the harbor, and that was exciting. Never before had we seen so many boats on one river. Canton is often called the "boat city" because its river and harbor are so crowded with boats. There are boats with sails, boats without sails, and boats with tails shaped like the tail of a fish. There are houseboats, called *sampans*, like those in the picture on the facing page, on which whole families live. They fish in the river. They keep pigs and ducks on the sampans. We don't quite understand how these people live in this way, but they do. Year in and year out many of them hardly set foot on shore.

Soon we were out over the harbor. Great ocean liners came grandly into the harbor, churning the waters and making the small boats bob up and down on the waves. The huge ships went proudly

along as if they didn't care in the least how they tossed the small boats about. They had come from many other parts of the world bringing goods that are needed in China, and taking away Chinese goods that are wanted in other lands. Day in and day out the harbor of Canton is lively with boats and lively with people who work on the boats and in the warehouses near the harbor.

MAKING THE GLOBE TELL A STORY

Find Canton on the globe. Trace your route from Canton through the South China Sea, and on toward the south, to an island called Java. Find the city of Batavia. Notice that it is beside the sea. Name other islands near Java. This group of islands is called the Netherlands Indies. They are part of a large group of islands called the East Indies.

Now find the equator. Notice that you cross the equator in sailing from Canton to Java. Trace the equator around the globe until you come to the Amazon Valley. When you were in the Amazon Valley, were you north or south of the equator? When you were in the Congo Valley, were you north or south of the equator?

What kind of climate did you find in the Amazon and Congo valleys? What kind of climate would you expect to find in Java? The Amazon Valley is very low and flat, you remember. The island of Java is mountainous. What effect do mountains have on climate?

High in the mountains in Java the climate is much cooler than it is in the lowlands and valleys. Pine forests grow on the high slopes.

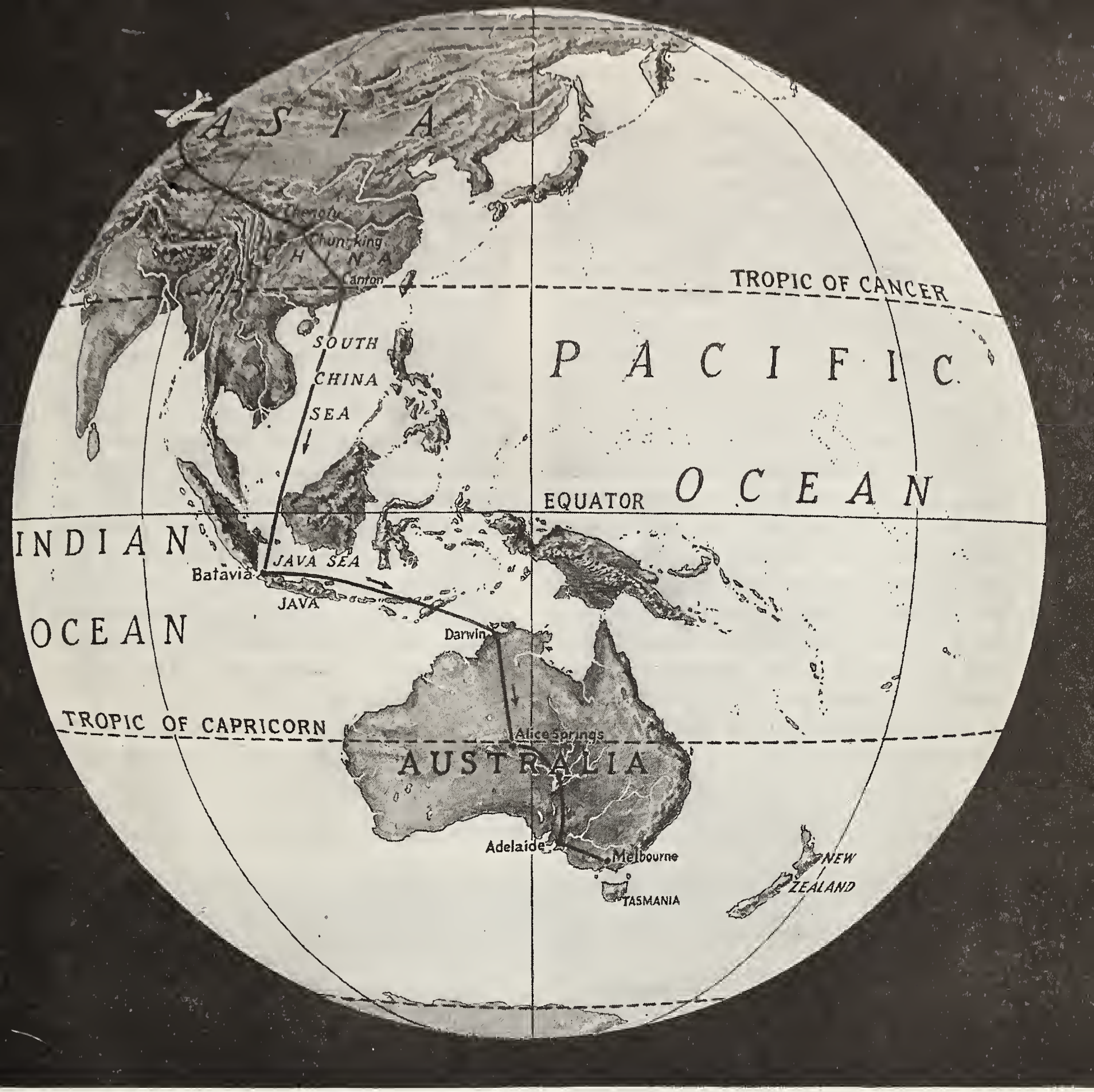
Do you remember that the Amazon Valley has two seasons, a rainy season and a drier, but not dry, season? The islands of this region southeast of Asia also have two seasons. The rainy season is much hotter than the drier season.

A TROPICAL FAIRYLAND

We shall tell of Java, the most important island of the Netherlands Indies. We could tell first of Batavia, the capital city, where our great plane landed. But Batavia is much like the other cities we have visited. It has an old part in which the houses are much like those of a village we shall tell about. It has a new part which is something like a city in Holland because it was built by people from Holland.

Flying over Java is like flying over a tropical fairyland. Flowers bloom on the mountain sides and the hillsides and in the valleys between. In places the jungles that cover the mountain slopes are so thick that the sunlight can scarcely shine through. Bright-colored birds fly through the air, and insects go buzzing and zooming. Water lilies with leaves as large as umbrellas float on the rivers and swamps where big frogs and lizards lie in the water.

But the island is not so much of a jungle as it seems to be from an airplane. In places it is like a well-kept garden. There are millions and millions of people living in Java, and they all have to get their food from the crops that are raised, or from the fruit which grows wild. The whole island is very little bigger than our Maritime provinces, yet there are nearly four times as many people in Java as there are in Canada.



A picture of the globe showing our route from Canton to Melbourne.

The Farmers of Java

The people of Java and of the other islands near by are called Malays. Their skin is brown and their hair is almost black. They are not very tall, and most of them are quite slender. All their movements are graceful.

The farmers live in small villages. But their villages are not like those we visited in other tropical lands. The houses, usually made of bamboo, are surrounded by tropical trees and shrubs. There are banana plants, coconut palms, graceful pepper trees, curiously twisted fig trees, and patches of bamboo. Seen from a little distance, a Javanese village looks like a tiny forest.

The climate is such that several crops can be raised in each season. Rice is the principal crop in the wet season. The rice paddies of Java are much like those of Szechwan. Some are down in the valleys; some are on the hillsides, which are terraced and walled to hold water, like the fields in the picture on this page. The water buffalo, or carabao, like the ones on page 139, is used more frequently in Java than in Szechwan to plow the rice paddies.

Just as in Szechwan, the rice plants must be set out by hand. In the picture on page 159 we see Javanese women setting the plants in the mud. Some fields are planted earlier than others and, as we see in the right-hand picture, are ready for harvest earlier. Enough rain falls so that it is not necessary for the farmers of Java to carry great buckets of water to the fields as the farmers of Szechwan have to do.

Rice is stored in odd little houses built on stilts. It is not hulled after harvesting but is allowed to remain in the straw. This is because there are so many insects in Java, and insects like rice. They cannot eat unhulled rice so easily as that which has been hulled. Every day the farm women of Java have to pound out enough rice for the day. This is usually done with a long pole in a wooden bowl.

Spices of different kinds are raised in the gardens. Many spices, such as pepper, cloves, and cinnamon, are sent to other countries. The Javanese use them to give flavor to the rice. The nut of the coconut palm provides oil for cooking, and the tender meat is used for food. Much coconut oil is sent to other parts of the world, where it is used as cooking fat or made into margarine. Sometimes it is used for making soap. The dried meat of the nut is called *copra*. This also is sent to other countries.

The bamboo plants which grow in the village gardens are used in various ways.

These tiny flooded fields on the terraced hillsides in Java will later produce rice for thousands of people.

Philip Gendreau

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Women of Java transplanting rice in the wet fields.

Philip Gendreau

Some of the drained paddies are ready for cutting.

Young sprouts are cooked as a vegetable. When the plant has grown to its full size, the bamboo is quite strong. The stems are split and woven into walls or doors for the houses.

The village people of Java have found many uses for the banana plant. They eat the fruit of the plant. They cook the tender young shoots as a vegetable. Sometimes they wrap leaves from banana plants around carabao meat and bake it in hot ashes. That is a very special treat. Sometimes they use full-grown leaves as we use wrapping paper. And sometimes they use a great, broad leaf as a parasol to keep off the hot sun, or as an umbrella to keep off the rain.

Many farmers have small fishponds near their homes. They stock them with fish and a few creatures which do well in small bodies of water. Thus they have another good kind of food to eat with their everyday rice.

Plantations

Though many of the farms of Java are small, there are also large plantations all over the island. Most of these are owned, not by the Javanese people, but by large companies of business men in other parts of the world. Companies from Holland, from England, and from America own such plantations. These companies send out white men to manage the plantations and to employ Javanese people to work on them.

The rubber plantations are, perhaps, the most important of all. Hard work must be done for many months before such plantations can be started. First, the jungle has to be cleared of all thick, tangled growth. The ground has to be plowed and smoothed. Then the young rubber trees are planted and cultivated and kept free from disease or insects which would destroy them.

A rubber tree does not begin to produce latex until it is about eight years old. When that time comes, there is much more hard work to be done. Once a day a worker, like the one in the picture on this page, visits the trees and cuts a large gash in each one. He puts a cup under the gash to catch the milky-white latex which oozes out slowly. In three hours the cup will be full, and then the worker must come again to gather the latex. Later the gash is painted with tar to keep out insects and prevent disease. The sun is baking hot, the loads of rubber are heavy. The worker has to go on because all over the world more and more rubber is demanded. White men hardly ever do the actual work. They pay the Javanese to do it.

The coffee plantations are also important in Java. Coffee trees are planted on hillsides or on well-drained ground out of the heat of the jungle. The trees need plenty of rain in blossoming time, but later, when their fruit is ripening, they need little or no rain. They must never stand in water.

Javanese making a gash from which the latex will flow. The cup below will catch the milky fluid.

Philip Gendreau

Like the tea plant, the coffee plant is an evergreen. Like the tea plant, if left to itself the coffee plant would grow to a height of twenty or thirty feet. But it is kept to a height of six or eight feet and trimmed and pruned to the shape of an ice-cream cone turned upside down. Its dark-green leaves are shiny and fresh-looking. Its flowers are pure white and very fragrant.

The green berries turn yellow as they ripen. When they are fully ripe, the color has changed to a deep scarlet and the berries are ready to be picked. In each berry two beans grow close together flat side to flat side. The beans are covered with a pulp that makes the coffee berry look like a cherry. After the berries are picked, the pulp is removed.

Plantations of cinchona trees are cared for in some parts of Java. What is a cinchona? It is a tree with thick bark from which quinine is obtained. People all over the world want quinine, and much of it comes from the cinchona plantations of Java.

The trees grow best on the higher slopes of the mountains where the air is cool and the soil is well drained. They are planted in groves and are as carefully tended as are the rubber trees. When the cinchona trees are old enough to be used, they are cut down and their bark is stripped off, dried, and ground into powder. Quinine is made from the powder. Young trees are planted to take the place of those cut down.

There are also sugar plantations all through the island of Java. The sugar crop is one of the most difficult of all to harvest. The work is so difficult that women hardly ever help with it as they help with most other tasks.

Philip Gendreau

Java—part of a tea plantation ready for pickers.

© Screen Traveler from Gendreau

Tea pickers waiting in line to weigh the leaves.

The two pictures above show us that a tea plantation in Java at leaf-picking time is an interesting sight. The women and girls do most of the work on such plantations. They get very wet while working among the dew-covered or rain-spattered leaves, so they wear old clothing which covers them from ankle to neck. On top of their heads are neat little packages containing bright-colored dresses which they will put on when the day's work is done. Then, freshly dressed and looking very pretty, they will go dancing along, laughing and talking or singing their native songs.

Many of the people of Java would be happier if there were no large plantations run by white men on their island. Before the people from Europe came to Java, plantations were unknown there. The Javanese work harder than they did then. But they have learned better ways of doing things. They can produce more and better crops. They know better how to keep healthy and how to fight disease. They have learned much from the Europeans that is very useful to them.

THINGS TO DO

Turn back and read on pages 32–33 how rubber is gathered in the Amazon Valley. Compare the work needed to gather latex from wild rubber trees with the work needed to start a rubber plantation.

Compare the gardens of the Amazon and Congo villages with those in a village of Java. Compare the plants that are raised in these regions.

Which region would you rather live in, the Amazon Valley or Java? Why?

Compare the pictures of the Amazon and Congo valleys in this book with those of the island of Java. Talk about the differences you see.

With the help of your mother, make a list of the spices in her cupboard. From your grocer, or from anyone who will help you, find out from what country the various spices probably came.

Make a list of all the foods mentioned in the stories about Szechwan and Java. Are there any among those foods that you have not tasted? Which ones are they?

Bring pictures of tropical lands and compare them with those in this book.

Plan to make some pictures of your own showing interesting parts of this region.

Once upon a time, nearly two hundred years ago, an Englishman set out on a sea voyage of thousands of miles to look at a star. Imagine such a thing! Couldn't he have seen the star from his own country? Yes, of course he could. And he had seen this particular star again and again. But he traveled the long distance to see it this time because a very unusual thing was to happen. You shall learn of it presently.

The name of this Englishman was James Cook. He was sent on the voyage by the Royal Society of London. The wise men who belonged to the Royal Society spent most of their time studying the stars and the sun and the moon and the movements of the earth, learning new facts about their wonderful world. They would rather learn new facts about the world than do anything else. Perhaps even rather than eat.

They had studied the stars enough to know that a very unusual thing was going to happen in the sky on June 3, 1769. On that day a star named Venus was going to pass between the earth and the sun. This passing would not be seen in England. It could be seen only from an island called Tahiti, far away in the waters of the South Pacific Ocean.

The men of the Royal Society wanted to know how long it would take Venus to pass between the earth and the sun. If they knew the length of time of the passing, they could figure out the distance between the earth and the sun. No one up to that time had been able to do such a thing.

There were a great many people of that day who didn't care how far it was from the earth to the sun. They didn't care about the passing of Venus. They didn't care about any such things. There are people today who don't care either. But wise men always are interested in their world. It is because they are interested that so many important facts have been discovered.

So James Cook was employed by the Royal Society to go on the long and dangerous journey. He and his men set out in their ship in August, 1768, almost a year before the passing of Venus. In those days all sea travel was by sailboat, and travel by sailboat is always slow because so much depends on the wind. It is especially slow if the wind is low or comes from the wrong direction.

James Cook and his men sailed south and a little to the west from England. After a great many days of voyaging, they came to the Madeira Islands near the west coast of Africa. They had to stay on those islands for a long time because the wind was not strong enough to carry them on.

When the wind rose, at last, they sailed on to the southwest. They sailed on and on for hundreds of miles. They crossed the equator and sailed along the hump of South America. The heat was terrific, for the sun shone almost directly upon them. But they sailed on in spite of the heat. By and by, as they went southward, they reached cooler seas. They had crossed the Tropic of Capricorn. Before they reached Cape Horn, they ran against winds that were bitterly cold. At Cape Horn they anchored a short time, and there they were caught in terrible blizzards and snowstorms.

They rounded the cape and sailed on. This time they steered their ship toward the northwest. After many days they were in warmer waters again. They crossed the Tropic of Capricorn and came to the island of Tahiti. They got to the island just in time to see the passing of Venus.

James Cook wrote a careful account of everything that had happened. Then he and his men made trips over Tahiti and the islands near by. Cook gave them the name Society Islands in honor of the Royal Society of London. He and his men rested awhile in the warm air and the golden sunshine of Tahiti and enjoyed its fine fruits.

From Tahiti the explorers sailed southwest to New Zealand. They sailed northwest from there and by and by bumped into the shores of Australia! Other sailors had touched those shores before this, but no white men had really explored the land. And no one knew that Australia was a large island, large enough indeed to be called a continent.

James Cook and his men anchored their ship and went ashore to see what they could see. They saw dark-skinned men, strange plants, odd-looking animals. One of these animals was called a "kangooroo" by the dark men of the island. The picture on this page shows a mother kangaroo with her baby. After several weeks of exploring, James Cook set the flag of his country on the shore and declared that from that time on the land should belong to England.

From the southeastern shore of Australia, James Cook and his men sailed north to Batavia. There they rested for a short time before they set off across the Indian Ocean. They sailed around the continent of Africa, around the Cape of Good Hope into the Atlantic Ocean, and home to England.

It was August of 1771 when they reached England. They had been gone for three years and had much to tell. Cook gave an account of the passing of Venus to the Royal Society of London. After a while someone figured out that the distance between the earth and the sun is ninety million miles. No one can begin to imagine such a distance.

King George III of England was delighted to hear about the new land over which the English flag was waving. He made James Cook a captain of the navy. Everywhere people cheered the brave captain and his brave men.

British Combine

The baby kangaroo is safely tucked away in his mother's pocket. He can jump out and in at will.

After a time Captain Cook was sent out to explore Australia. This time he discovered how large it is and that all of it lies south of the equator. The name Australia means "south lands."

King George thought it wise to have Englishmen settle the new land. But the English people were not willing to go there to live. They thought the new land was much too far from the homeland. The journey one way in those days took from six to eight months.

Then the king decided to send prisoners as settlers. He argued that prisoners would be happier even in a faraway land than they would be in prison. In Australia they could begin life all over again, forgetting the mistakes they had made in the past. So the first settlers were really men let out of prison.

Three Lions

Prize-winning sheep at a sheep station south of Alice Springs. Notice their heavy coats of wool.

A few of these men got on well and wrote interesting letters to their families and friends at home. Others were homesick. They thought it better to be in prison in England than to be free in the wild land of Australia. All in all, they didn't do very well as settlers.

After many years, however, other people decided to go to Australia and make homes there. In some places they found the climate too hot for comfort. England has a temperate climate, so the people were not used to such extreme heat. But by and by they settled in lands to their liking.

The English farmers have always raised sheep and cattle. So, as the two pictures on this page show us, sheep and cattle were raised in the new land. The animals grew exceedingly well. The wool of the sheep grew fine and silky. It was even better than the wool that grew on the sheep in England. You can see in the top picture that the sheep here grow fine, thick wool. The cattle grew fat and sleek. After a while great quantities of meat and wool were sent to England.

Someone, however, made a big mistake. It didn't seem like a mistake at the time, but it turned out to be one. Someone took some rabbits to Australia.

These Australian cowboys will keep this herd of cattle moving slowly but steadily toward the distant market.

British Combine

That doesn't seem like much of a mistake, does it? But rabbits raise very large families, and rabbits like to eat grass. Soon the grass lands of Australia were simply alive with rabbits.

Fences were put up to keep the rabbits out of the grass lands. One such fence is more than a thousand miles long. The rabbits burrow under the fences. Farmers and stock growers have killed millions of rabbits. Still there are millions more. It isn't their fault that they are a pest. Poor little rabbits!

Anyway, that is the story of how Australia came to be settled, of how the people came to raise livestock, of how the rabbits came to be considered a pest.

SOME THINGS TO TALK ABOUT

What kind of clothing do you think Captain Cook and his men took along on their voyage? Why? Do you think they had to use their things carefully? Why? What kind of food do you think they had? Could they get food along the way? Where?

Look at the globe again and see if you can tell what kinds of climate the different parts of Australia have.

The warmest weather of Australia comes between September and March. Why is this? Compare this with the season of warm weather in our own country.

When do the birds start to fly south in our land? In southern Australia the birds fly north when the cold weather comes. At what time of the year would that be?

At Christmas time you hope for snow so that you can go sliding. What would you do if you were spending a Christmas holiday in Australia? Why do people in our country sometimes speak of Australia as a "turned-about" land? Is our country a turned-about land for the people of Australia? Why or why not?

Name the winter months of Australia. Tell some of the things the children of Canada are doing while the children of Australia are having winter.

MAKING THE GLOBE TELL A STORY

You can have an exciting time going around the world if you follow on the globe the voyage of Captain Cook and his men.

Plan a way in which this can best be done. Perhaps someone in your class will read aloud about the voyage while the others follow on the globe. Perhaps several groups may want to make the voyage together. However you do it, be sure to make the whole journey.

As you make the voyage, talk about the climate of the different bodies of water and land which you visit. By this time you know enough about climate to do this. You will have to watch for the crossing of the equator, the Tropic of Cancer, and the Tropic of Capricorn.

First find England. Move your finger south and a little to the west until you come to the Madeira Islands. From there move southwest. Notice that you cross the Tropic of Cancer. Move southwest toward the hump of South America. Notice that you cross the equator.

Move southwest to Cape Horn. Tell about the climate at the cape. Round the cape and trace northwest. Notice that you cross the Tropic of Capricorn again. Do you cross the equator in reaching the island of Tahiti?

From Tahiti trace southwest to the southeastern part of Australia. What important line did you cross again? Trace north until you have been all around the eastern shore of Australia. Now trace your way through the seas until you reach Batavia. From Batavia trace west through the Indian Ocean and around the Cape of Good Hope. In which direction must you now go to reach England? What important lines on the globe do you cross again? Will it be the same season in England and in Australia?

THE LAND "DOWN UNDER"

Let's go exploring in Australia. Let's be like Captain Cook and his men and go on a journey to this island continent on the other side of the equator.

From Batavia let's fly to Darwin, a town at the northern tip of Australia. Darwin has a fine airport, so we can easily do this. Also Darwin is a seaport. You can see the ships at the long pier in the picture below. Darwin has a railroad, too, but the trains don't run every day. Can you imagine a railroad that doesn't have at least one train a day! But in the northern part of Australia there aren't many people, so there aren't many travelers, so not many trains are needed.

We shall not stay long in Darwin, only long enough to get a train to a cattle *station* hundreds of miles south of the city. In our own country a cattle station is called a *ranch.* Here in Australia many things are named differently.

The train puffs out of Darwin, and we ride through a region of trees and tall, thick grass. Our train goes puffing along, hour after hour. By and by we come to a region where we see very great stretches of grass lands. There are no trees, no houses as far as we can see. Nothing but grass. We feel lonely and a bit homesick, and we know now how the first settlers felt when they came from England.

Our train stops after many more miles, and we are told that this is where we get off. Mr. Gray, the cattleman whom we are going to visit, is to meet us. We look around when we get off the train and see nothing at all. No town, no houses. Have we made a mistake? Suddenly we see a pleasant-looking man who waves to us, and we feel better at once.

We climb into his truck, which stands not far from the tracks, and away we go over the grass lands. Not over a road, because through this part of Australia

The pier at Darwin, the small but important seaport of northern Australia. Note the tropical type of trees.

British Combine

there are very few roads. Mr. Gray knows the way across country and drives the truck bumpety-bump over the clumps of grass to his home.

By and by we see some low buildings in the distance, and soon our truck stops at the cattle station. Mrs. Gray welcomes us into a comfortable one-story house and says she is glad to have Canadian visitors. We feel at home here because her house is much like our own homes.

Outside there is plenty to see. There is the blacksmith shop where the horses are shod and tools of iron and steel are mended or made. There is the carpenter shop where tools of wood are mended or made. The station is far away from any city or town. For that reason nearly all kinds of work must be done by the men at the station.

We go with Mr. Gray into the fine stables where the horses are kept. We look into the long, low house where the cowboys live. We watch the big wheel on the windmill turn round and round. The windmill pumps the water for the cattle and horses. It pumps the water for the kitchen and bathroom, too.

After supper Mrs. Gray shows us her storeroom. It is full of cases of food which have come from different parts of the world. There are olives from Greece, wine from France, and fish from our own country. There are also dried peas, beans, and corn. The weather is too dry for good gardens and fruits in this part of Australia, so such foods are shipped in. There is plenty of meat, butter, and milk. Most people who live in cattle stations keep chickens and turkeys.

To Market, to Market!

We are off on a thrilling adventure! We are going part of the way with Mr. Gray to market a great herd of cattle. For several days the cowboys of the station have been busy riding over the grass lands, herding together the cattle that are ready for market. Such a herd is called a "mob" in Australia.

We wanted to ride along with the cowboys, but everyone laughed at us for even suggesting such a thing. It takes skill and training to be a good cowboy, we were told. Mr. Gray said we wouldn't even be "jackaroos," the name given cowboys while they are learning to look after cattle.

So we waved good-by to the men when they set off for the last day of the mobbing. They waved their hats, grinning. Cowboys' faces are tanned like leather. Around their eyes they have dozens of fine wrinkles from squinting in the bright sun as they look off through great distances. Their bodies are lean and all muscle, and they sit in their saddles gracefully and easily.

With their great mobs of cattle the cowboys rode south, following the "Traveling Stock Route." This route is over lands which have been set aside by the government for herds going to market. Signboards guide the cowboys. Wells, like the one in the picture on page 168, furnish water along the way. There is plenty of grass for the cattle.

The cattle will travel only about twelve or fifteen miles a day. They must not be hurried. If they were hurried, they would lose weight and arrive at the market in poor condition. Since the journey will be a long one, the cowboys will camp along the way. They will not set up tents as the Bedouins do. They will simply wrap themselves in their blankets and lie down on the ground with the sky for a roof. They will cook their meals of salt beef or dried beef over a campfire. They will bake "damper," a kind of bread made of flour and water and baking powder. Their ponies, tied to stakes in the ground, will be nipping the grass. The cows will be scattered over the grass lands, resting.

British Combine

Along the way to the distant market the cattlemen have dug deep wells which furnish water for thirsty cattle.

Once more we climb into the truck with Mr. Gray and go bumping along over the level grass lands. The farther south we go, the less grass we see. Of course, Mr. Gray is not following the "Traveling Stock Route."

In the distance we see patches of yellow against the pale-blue sky. Mr. Gray says the patches are acacia trees. When we come near them, we see that these trees are covered with fine yellow flowers. Gray bushes also grow here and there on the ground, which is otherwise almost bare. We think of the bushes we saw in the grass lands of Africa as we traveled toward the Sahara.

Now and then we come to a dry river bed, or the bottom of a river. In Australia there are very few rivers that flow all the year round. Along the edges of the river bed grow eucalyptus trees. At first when we saw them we thought these trees were all dying, for their bark was falling off in long strips. Mr. Gray explained that the eucalyptus tree sheds its bark at certain times of the year. However, the tree keeps its leaves all the year round.

On and on we go, and by and by we come to the town shown in the picture on page 169. It is called Alice Springs. Here we are to rest for a while.

THINGS TO TALK ABOUT

Compare life on a farm with life at a cattle station. Here are a few suggestions to help you in making the comparison:

The distance from a town
The roads to the railroad stop
The kind of buildings
The foods that are raised

How long at the rate the cattle travel over the stock route would it take them to go a hundred miles?

What must a man learn if he wishes to be a good cowboy?

Would you like to be a cowboy? Why or why not?

Mr. Gray will meet the cowboys and the herds when they get to the market. Why is it necessary for him to do this?

The Blackfellows

We have come to the most exciting part of our adventure. Mr. Gray is in no hurry to drive on to the market because he can make the trip in his truck much faster than the cowboys and the cattle can make it. So he takes us exploring to see the blackfellows. They live in a wilder part of the country which Mr. Gray calls the "bush."

We go out a long distance from Alice Springs to the region where the blackfellows live. We have seen some of these dark men here and there on our journeys, but we have not yet come to their own land.

As we bump along in the truck, we keep watching for signs of them. Kangaroos often leap ahead of us through the grass, and we learn first about them. A large kangaroo is as tall as a man. His two hind legs are very large, very powerful, for he uses them to jump over the ground. He uses his tail, too, as a sort of spring to help with his jumping. Thud! Thud! Thud! He covers the ground very fast. He can leap over a dry river bed or jump as high as twenty feet into the air.

When he rests he sits on his two hind legs and his tail as if he were sitting on a three-legged stool. His two front legs are not strong at all, and no wonder, for he really doesn't use them much.

A baby kangaroo is only about an inch long when it is born. It is hard to imagine that so tiny a baby could grow to be such a large creature. The mother kangaroo carries the baby in her pouch, which is very much like a big, warm pocket. Mr. Gray tells us that a baby kangaroo learning to jump is one of the funniest sights in the world. It is so awkward at first, trying to use its legs and its tail all at the same time and

Alice Springs, which is almost in the center of Australia, is also a market for the sheep and cattle industry.

British Combine

British Combine

Emus in Australia. They dig their nests in the sand. They cannot fly, but they are swift runners.

tumbling over more often than not. But the mother is very patient, and when danger is near she sits down quickly so that the baby may hop into her pouch.

There are several different kinds of kangaroos in Australia. One of these, a small kind, is the wallaby. Another one is the rabbit kangaroo, which is smaller than the wallaby.

While we are learning about the kangaroos, we come to the home of one of the blackfellows. It is not much of a home—only a crude hut made from the bark of the eucalyptus. Near it are several men, but there are no women in sight. The men have a dark skin and black but not fuzzy hair. In this they are different from the African Negroes. The blackfellows wear very few clothes. They smear their bodies with a kind of paint made of clay. They make bumps in their skin by scratching it with the sharp edge of a stone or a shell and then rubbing bits of clay into the wound. When the skin heals over the clay, there is surely a beautiful bump! At least it looks beautiful to the blackfellows. The more bumps they have on their bodies, the handsomer they think themselves.

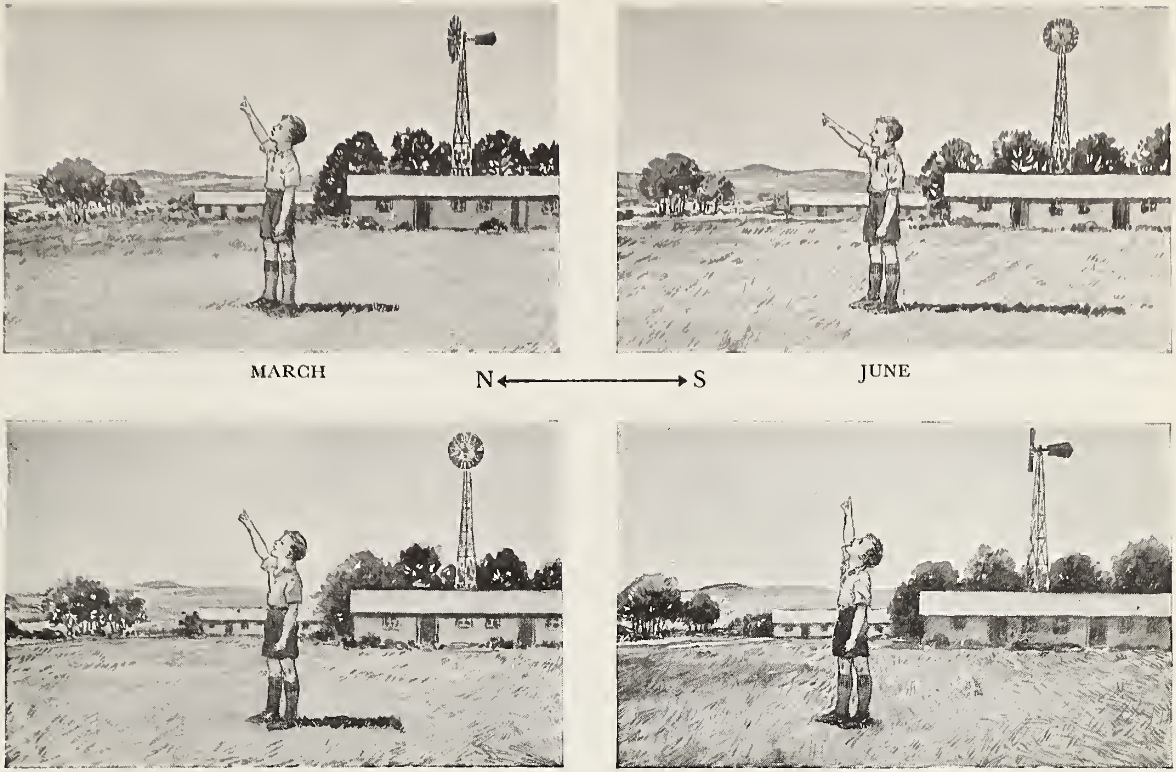
They live on the flesh of animals which live in this region. The blackfellows are very clever in handling spears and in throwing a weapon which they call a boomerang. This weapon is made of wood and is shaped like the new moon. The blackfellows know how to throw it so that it will sail out and come back to them again.

The blackfellows eat the flesh of the emu, shown in the picture at the left, and the cassowary, which is much like the emu. These are very large birds something like the ostrich. The eggs of the birds are eaten, too. A favorite food is wild honey. The blackfellows are very clever at finding nests of bees and in getting the honey. They cram it down their throats, handfuls at a time.

The flesh and the eggs of the beach turtle, shown in the picture below, are eaten by the blackfellows who live near

A huge Australian turtle captured by native men. Now there will be a splendid feast for everyone.

British Combine



MARCH

JUNE

SEPTEMBER

DECEMBER

At the Tropic of Capricorn. This Australian boy points to the noonday sun at different times of the year.

the sea. They think it great sport to go riding on the back of the turtle. At first we couldn't understand how this could be done. But Mr. Gray explained that these creatures sometimes weigh as much as three hundred pounds.

No one knows how long these strange blackfellows have lived in Australia. They have no written history. They were there when the white men came, living much as they do now. They are not eager to learn new things. Sometimes one will leave his own people and go to work on a cattle station. Usually he does not stay long, for life is much easier for him in the bush. A simple life of hunting and fishing pleases him best.

The blackfellows are disappearing. They are being pushed farther and farther into the back country, which the Australians call "outback." Sometime they may disappear altogether.

THE SUN AT ALICE SPRINGS

Alice Springs is almost at the Tropic of Capricorn. Study the pictures of the boy in Australia pointing to the sun. Compare these pictures with those of the Arab boy on page 67. Notice that the two boys are pointing in opposite directions.

On to the South

At Alice Springs we say good-by to Mr. Gray and go on our way by train. Now we travel through real desert. It is as dry and as lonely as the Sahara, but not so large, of course. As in the Sahara, we see camel caravans winding across the desert. In this part of Australia camels are used to carry supplies to the cattle and sheep stations.

As we go on and on to the south, the country gets greener. Great patches of green grass stretch away in the distance, and we know that we are coming to our next stop—a sheep station.

Mr. Gray chose this sheep station for us to visit because it is one of the largest in the world. Thousands of acres of grass lands are in this one station. We told Mr. Gray about farmers of the Red Basin who have scarcely as much as an acre of ground. But he said this is a different kind of farming, a kind which requires few people and much land.

When we get off the train, we are met by a sheepman in a truck, and away we go to the station. As we come near, the station looks like a village because there are so many buildings of all kinds around. There is the large, rambling house where the station manager lives. There is a house where visitors are entertained. There are barracks for the men who look after the sheep. There are large stables for the horses and the oxen, feed rooms and dairy rooms, and kitchens for the men of the stockyards. The gardens all around are a riot of blooming flowers. Here much more rain falls than in the region farther north.

The nearest neighbor lives sixty miles away. There, too, we should find the same sort of buildings. Of course, people who live so far apart can't visit back and forth often. Yet they do see each other once in a while. In some parts of the region there are good roads, and in other parts there are railroads. In some parts, too, there are bicycle trails. Some of the sheep shearers who go from one sheep station to another use bicycles in making their rounds.

We learn that most of the sheep are raised for their wool, though some are raised for meat. Every year men come from other lands to buy the finest wool for the mills of their country. As wool is sheared from the sheep, it is rolled into large bales and tied securely. When market day comes, the wool is loaded into great, flat wagons or carts, like those in the picture on this page. They are drawn by oxen over the grass lands or

The wool is baled, and then it is carted to the nearest railroad station, which is often many, many miles away.

Ewing Galloway

British Combine

The second largest city of Australia is Melbourne, which has a population of more than one million people.

over the roads to the nearest railroad station. Oxen move slowly, but they can pull heavy loads. The slowness of their travel isn't important, because wool won't spoil on the way.

At the sheep station we learn about the wild dog, or dingo, an animal which is a pest to sheep growers. The dingo kills sheep to eat, but it also seems to kill for the pleasure of killing. To help rid the country of dingoes, the government pays a bounty on them.

On to Melbourne

Now we continue our journey of discovery to Adelaide, a city in southern Australia. We learn that Adelaide is in one of the best parts of Australia. Much rain falls in the winter. The summers are hot and dry. Though this region is far from the Mediterranean Sea, it has a Mediterranean climate. Grapes and olives and oranges are raised all through the region.

From Adelaide we go southeast to Melbourne, which we see in the picture on this page. We have heard much talk of the Murray River and are eager to see it. It is not so much of a river, we think, when we remember the large rivers of the world which we have seen on our journey. But to Australians it is very important because it is one of the few rivers of this continent which has water in it all the year round.

Water from the Murray River is used to irrigate farm lands in the hot dry season. During the hot dry summer days of December, January, and February very little rain falls. When the river is high, however, steamboats sail up and down

British Combine

Tasmania, the large island southeast of Australia, has a great variety of climate, resources, and elevation.

carrying goods of various kinds from the farms to the cities along its banks.

The Murray rises in the mountains which run along the eastern coast. These mountains are sometimes called the "Australian Alps," though they are not nearly so high or so magnificent as the Alps of France and Switzerland. Still, the people go there for winter sports just as they go to the Alps in Europe. They skate on the lakes and go skiing over the slopes.

Tasmania

Across the narrow strip of sea from Melbourne is a state of Australia which is not a part of the continent. It is an island which was discovered centuries ago by a sailor named Tasman. Though Tasman was from Holland, he did not take the land for his own country. It was settled by English people and is now a part of the country of Australia.

Many inlets of the sea extend into Tasmania and give it a beautiful coast line. Good fishing, swimming, and bathing bring thousands of people to the shores of Tasmania. Farther inland, as we can see in the picture on this page, Tasmania is quite mountainous. On the gentle slopes of the hills and mountains are orchards of fine fruits. Sometimes Tasmania is called the "jam pot" of Australia, indeed of the world, because so many fruits are preserved here. The sugar for the preserving comes from tropical countries.

Tasmania has a temperate climate. It is all near the sea. For this reason the climate is more temperate than it is farther inland in Australia. The English people have always liked this part of Australia better than any other part because the climate here is so much like their own climate in England.

THE GEOGRAPHY WORKSHOP

You have made a long trip to new places as you studied "On the Other Side of the World." You have learned that the people in the different places you have visited are alike in some ways. They are different in some ways, too. The suggestions that follow will help you to find out how well you have studied.

USING THE GLOBE

By using the globe, you can see what a long journey you have taken. Put your finger on North Cape, where your journey began. Follow your plane trip over Asia to the Red Basin in China. Then trace the route to the city of Canton, across the South China Sea, across Java Sea, to the island of Java. Then trace the route from Java to Darwin, across the continent of Australia to Alice Springs, and then to Melbourne and the island of Tasmania.

Notice that you went almost halfway around the world. You started from the cold lands of northern Norway and crossed the Tropic of Cancer, the equator, and the Tropic of Capricorn. The globe shows you that the island of Tasmania is about as far south of the equator as France and Switzerland are north of it.

Now study the globe carefully and find the shortest route back to your own home. How would you choose to travel? Why?

A MATCHING GAME

At the left in the next column is a list of names you learned in "On the Other Side of the World." In the right-hand list in the same column is an explanation for each of these names. But the explanations are not in their right order. Copy the first name in the left-hand list. After it write the correct explanation from the right-hand list. Do the same thing with the rest of the names. Then check your work to be sure that it is exactly right.

1. tundra
2. guilds
3. sampans
4. mob
5. boomerang
6. Tasmania
7. blackfellows
8. Darwin
9. station
10. copra
11. latex
12. Malays

a weapon of wood shaped like a new moon

the people of Java and other near-by islands

a flat stretch of land covered with bogs and marshes in summer and snow and ice in winter

natives of Australia

the milky sap of the rubber tree

groups of people who worked together for the good of everyone in the group

another name for houseboats

a city in Australia

an island off the coast of Australia

the name used in Australia for a herd of cattle

the dried meat of the coconut

another name for a ranch

MAKING PICTURES TELL STORIES

Work with your classmates in arranging the pictures you have been collecting so that they tell a story about each region. Put all the pictures about China together. Put those about Java together, and those about Australia together. If you cannot find suitable pictures to tell enough of the story about these different peoples, make some of your own. Write or print interesting names for your pictures.

CAN YOU USE THE RIGHT WORDS?

How well have you been studying? Copy the sentences below. Choose the correct word or groups of words from the list and write them in place of the xxxxx's. There are two words in the list that are not needed.

summer
equator
cooler
rice
terraces
plantations
coffee
desert
North Pole
tea
hand
rubber
fall
Indian Ocean
sugar

1. If you could dig straight through the earth from where you live, you would come out somewhere in the xxxxx.
2. xxxxx is the favorite food of many of the people of China.
3. Many of the farms of China are on xxxxx on the hillsides.
4. Much of the work of farming in China is done by xxxxx.
5. In Java there are small farms and also xxxxx.
6. Here are xxxxx, xxxxx, xxxxx, and xxxxx plantations.
7. The climate is hot in Java because it is near the xxxxx.
8. The climate in mountains is xxxxx than in near-by lowlands.
9. Part of Australia is a xxxxx.
10. When people in Australia are having xxxxx, you are having winter.

PLACES AND COUNTRIES

Below is a list of places you have visited on your trip from Bergen to Tasmania. Copy this list. Opposite each name write the name of the country to which the place belongs. Check your answers with the help of the book.

Darwin
Szechwan
Alice Springs
The Red Basin
Canton
Melbourne
Chengtu
Adelaide
North Cape
Batavia
Tasmania
Bergen

GIVING A TALK

Below is a list of topics about the people of Szechwan, Java, and Australia. Choose the one that you like best and plan to talk about it to the rest of the class. Try to find interesting information in addition to that in this book. Perhaps your classmates can add some ideas when you have finished.

How the people of Szechwan dress
The homes in Szechwan
Growing tea in China
How growing crops in Java is different from growing crops in China
Traveling in China
Amusements in China
The purpose of James Cook's journey
Stations in Australia

BOOKS TO READ

In some parts of China people raise and take care of silkworms. These are the small worms which spin the fibers used in making silk thread and in weaving fabrics of silk. The worms are fed upon mulberry leaves until they are about three inches long. Then they are allowed to begin their spinning. They make a sort of covering for themselves of the silk thread they spin. This covering is called a cocoon. The cocoons are heated to kill the worms before they cut their way out as moths. Then the silken fibers are unwound for the spinning. This work is usually done by women and children.

A story which tells about the first silk making that was done in China is called "Silver Moon's Silk Dress." It is found in Frederick A. Kummer's *First Days of Knowledge*. Perhaps your teacher will read this story to you. You will enjoy reading *Silk and Satin Lane*, by Esther Wood. Another enjoyable book is *The Moon's Birthday*, by Dorothy Rowe. It tells about Chinese acrobats.

Picture Book of Travel, by Elmer and Berta Hader, gives a good idea of traveling before the days of trains and motorcars.

Two interesting books of present-day travel are *Peter and Nancy in Asia* and *Peter and Nancy in Australia*, by M. H. Comfort.

Ewing Galloway

The ocean stretches away as far as we can see, until the sea and sky seem to meet in a circle all around us.

Our World in Maps

HOMEWARD ACROSS THE PACIFIC

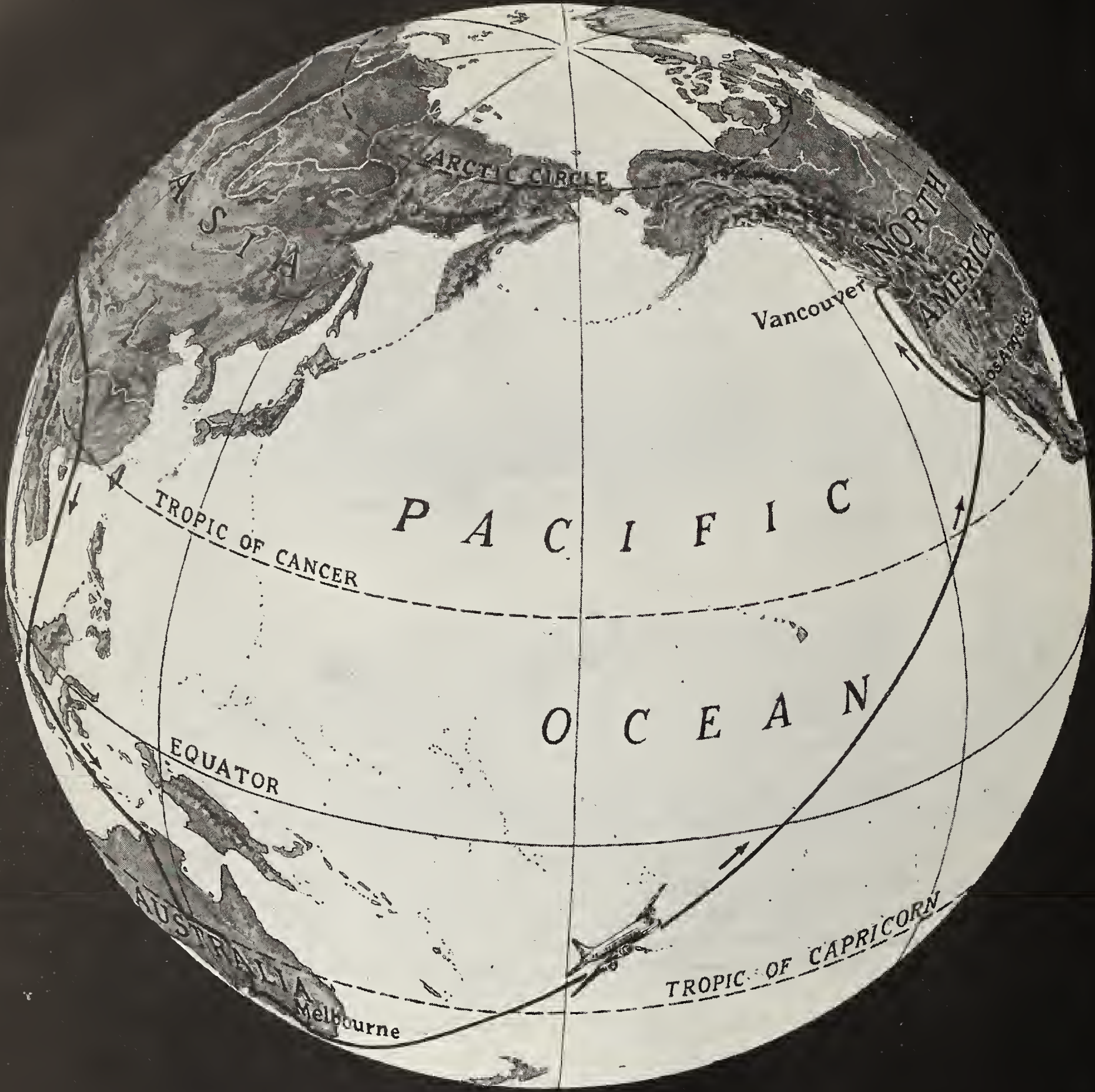
From Australia we are going home. We are going to fly across the whole wide Pacific Ocean to our own country. Our journey will begin at Melbourne and end at Vancouver.

Many planes do fly back and forth between Australia and Vancouver. Fast planes can travel this long, long way in less than three days. If we take one of these fast-flying planes, we shall see mile after mile of water beneath us, as in the picture above. Sometimes it will be blue and sparkling in the sunshine. Perhaps a storm may come up, turning the water dark blue or gray. Then the waves rise high, with splashes of white foam on their tops.

Now and then we fly over an island or a whole group of islands. Some islands are large, with mountains, forests, and farms. Others are very small. We see white sand along the shore and the feathery leaves of coconut palms waving in the breeze. We can see farther across the ocean than we could see from a ship, but only a few miles farther. Our plane probably does not go more than two or three miles above the earth. The higher we fly, the farther we can see.

If we let our imaginations fly away with us, we shall be able to see much more of the earth at one time. Imagine we are making the trip in a plane that can fly half as high as the moon. If we could fly that high, the earth would look like a globe.

No one has ever been so far away from the earth, and so we cannot be sure whether or not we could see the blue of the ocean, the green of the forests and the crops, and the white of snow. It may be that the earth would look very



The Pacific is the earth's largest ocean.

much like the pictures of the globe in your book. There would probably be one difference, though. Where the sun shines on it, the earth would glow with light, like the moon.

Since we are on the way home from Australia, the earth would look like the map on this page. We are looking at the Pacific Ocean. Behind us we see Australia, almost lost around the curve of the earth. Far ahead is North America. We can see only part of it, for the rest disappears around the curve on the other side of the earth. The huge Pacific Ocean takes up nearly all of the half of the earth that we can see.

After taking us up so high that we can see half of the world at once, our pilot drops down again. The earth and the shore of North America seem to be coming toward us. Now the land begins to look like the map on page 180. We are over the city of Los Angeles, which you can find on this map and also on the map on page 178.

Now we begin to see how the land really looks. Beneath us we see city streets and blocks of buildings. Straight down, we see Los Angeles. It looks very much as it does on the map on the next page. Of course, we do not see the name printed on the earth as it is on the map. We ask the co-pilot what the city is. He tells us that it is Los Angeles. He tells us the names of some of the other cities, too.

The co-pilot does not know the names of all the cities we can see. When he does not know the name of a city, he looks at his map. He compares his map with the country beneath us and finds the city. Then he reads the name from his map. Soon we find that we can do this ourselves. We discover that it is more fun to find the names for ourselves than to ask the co-pilot.

MAPS THAT ARE LIKE PICTURES

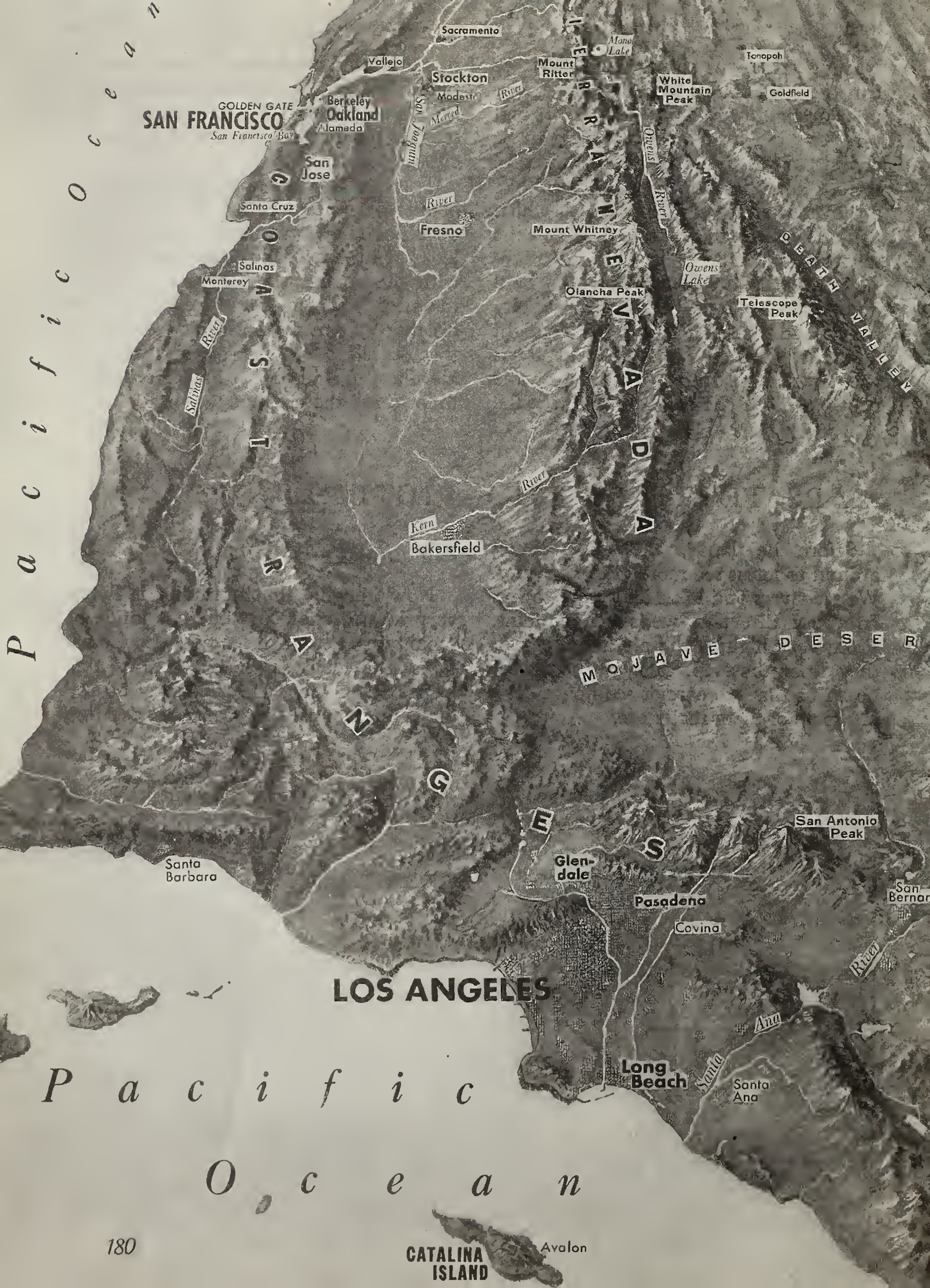
Before he lands, the pilot circles around to let us see more of the country. We see rivers and lakes and more towns. In every direction we see mountains. From very high in the air, they look as they do on the map. They are so far beneath us that we cannot see how different some of them really are.

Mountains and Cities

Now imagine that our pilot is flying very low to show us different kinds of mountains. You can see how the mountains really look in the pictures on this page and on page 181. Below, you see high mountains that look almost like

These are the tops of very high mountains. They are so bare they look like mountains on the map.

Courtesy Southern Pacific Company


Pacific Ocean
Sacramento
Vallejo
Mono Lake
Mount Ritter
Tonopah
Stockton
Modesto
River
White Mountain Peak
Goldfield
GOLDEN GATE
SAN FRANCISCO
San Francisco Bay
Berkeley
Oakland
Alameda
San Joaquin
Merced
Owens
San Jose
Santa Cruz
River
River
Fresno
Mount Whitney
SIERRA NEVADA
DEATH VALLEY
Salinas
Monterey
Owens Lake
Olancha Peak
Telescope Peak
COAST RANGES
River
Salinas
River
Kern
Bakersfield
MOJAVE DESERT
San Antonio Peak
Santa Barbara
Glendale
Pasadena
San Bernar
Covina
River
LOS ANGELES
Santa Ana
Long Beach
Santa Ana
Pacific Ocean
CATALINA ISLAND
Avalon

mountains on the map. They are bare and rough, with dark shadows on the side away from the sun. At the right are mountains that are not so rough or bare. Many plants grow on them. Below are low mountains with houses and roads on the slopes.

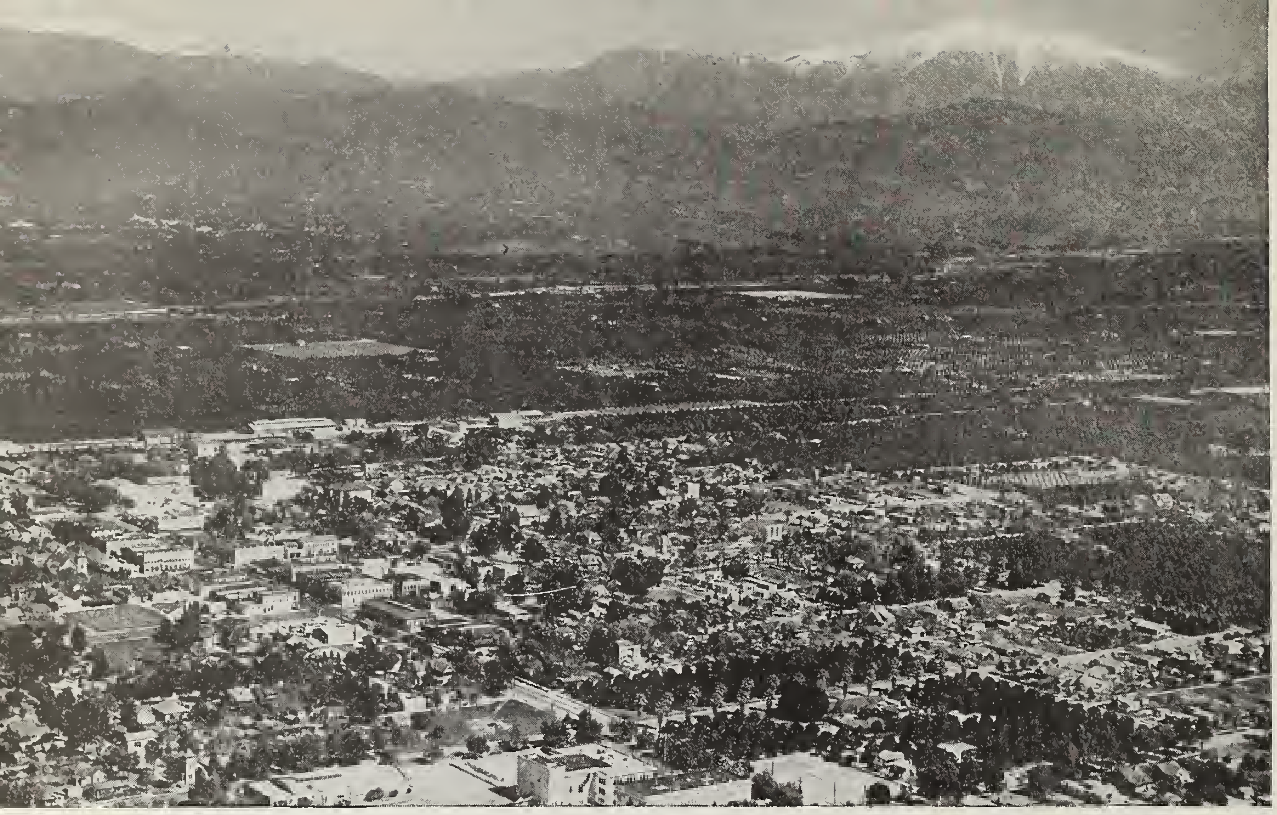
Now imagine that our pilot is taking us for one last circle before we land. He flies northeast from Los Angeles. Find the town of Covina on your map. In the picture at the top of the next page you are looking down on this town. The white mountain at the back of the picture is San Antonio. You can find this on the map, too. You can see the streets and buildings of the town. Around the town you see fields, many of them with

Orville Logan Snider

The map does not show plants growing on these mountains. On the map the slopes seem bare.

On the map even mountains with houses and streets look as bare as those in the picture on page 179.

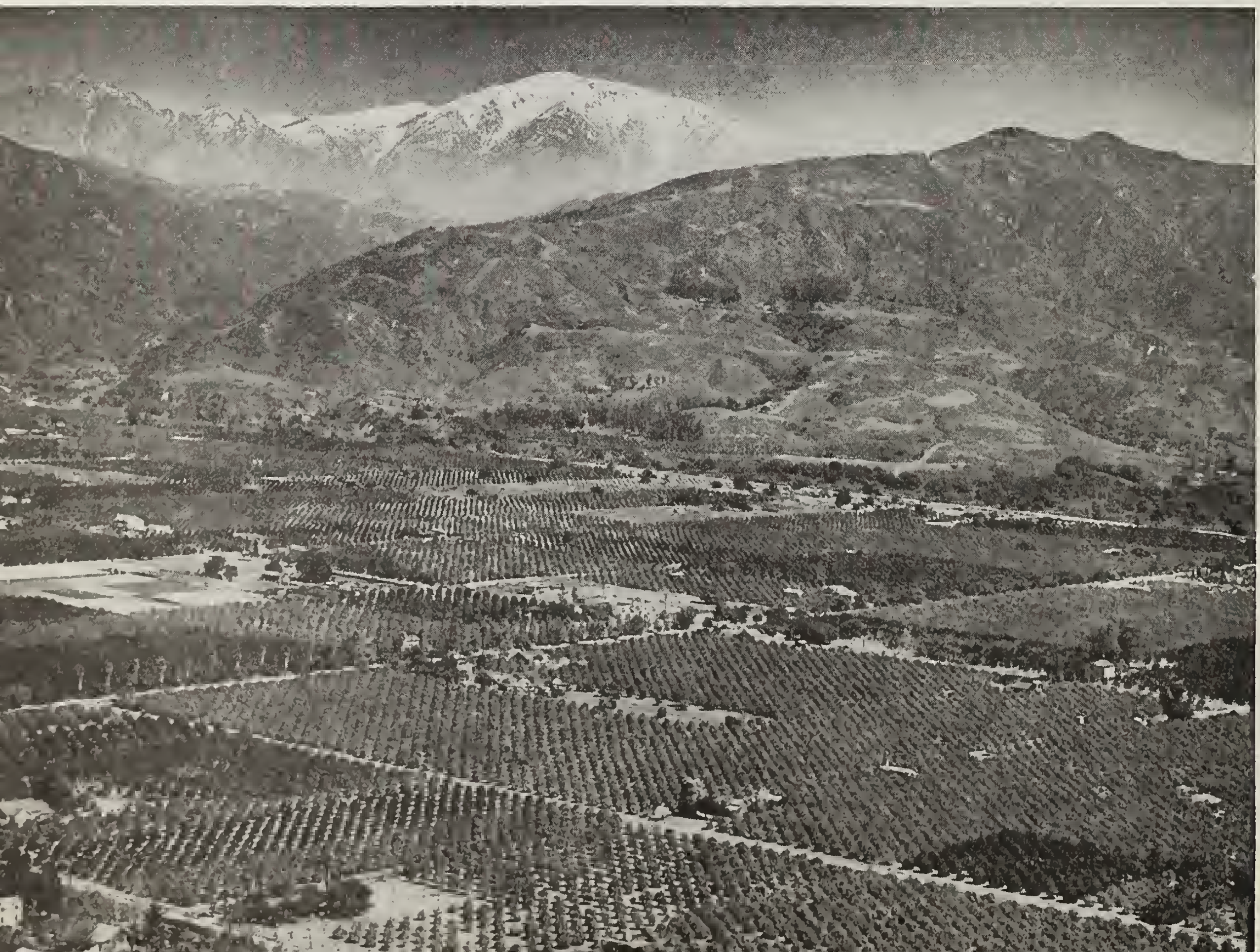
Spence Air Photos



Spence Air Photos

The mountains in the upper picture look more like the map because you are farther away from them.

Spence Air Photos



trees planted in straight rows. Beyond the fields there are low mountains with high, white mountains still farther away.

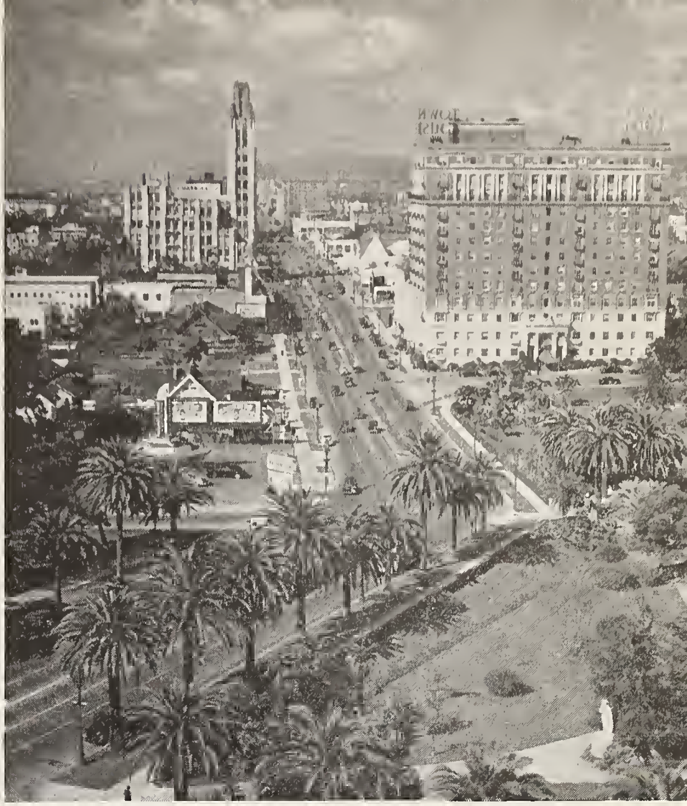
The lower picture at the left shows the same mountain, but now the plane is much closer to it. The town is behind us. The plane is flying lower, too. It is not so high as the top of the low mountain in front of Mount San Antonio. We see trees and roads plainly. On the low mountain we see little gullies that we could not see at all from farther away.

At last we land at an airport near Los Angeles. A car is waiting for us at the airport. We drive over country roads and through city streets. The picture at the right shows you some of the things we see.

This picture shows a street in Los Angeles. Some of the buildings are many stories tall, and others are low. There are trees along the streets. You cannot see the buildings or the palm trees or the grass or the people on your map. You cannot see the cars or the small curves in the street. There would not be room on the map for a real picture of Los Angeles and everything that is in it. The lines and squares on the map make you think of a city, but they are not a real picture of a city. They stand for a city. They tell you where the city is, but they do not show you how it looks. They are a *symbol*, not a picture.

Symbols on the Map

All around Los Angeles there are mountains and hills. Your map shows you where they are, but it does not show you just how they look. On the opposite page you saw two pictures of Mount San Antonio, and you found it on the map on page 180. The mountains on the map look like pictures of mountains, but they do not really show all the mountains just as they are. They make you think of mountains and they stand for mountains.



Ewing Galloway

Compare this picture of Los Angeles with the lines that stand for Los Angeles on the map on page 180.

They are symbols for mountains. They show where the ground is high and rough, and they show just where some of the highest peaks are. They leave out a great many details, however. There would not be room on a map for a picture of everything just as it is.

The map does not show houses and trees such as you have seen in pictures. On the map the valleys look as bare as the highest mountains, but they are not really bare. Outside of the cities and towns, they are covered with groves of orange trees and other crops.

No map can show everything that is on the earth. Maps can be made to show different things, but no map can show very many things at the same time. No doubt you have seen road maps. They show roads and towns, but they do not show much else. They are meant to show a traveler how to find his way, but they do not tell him how the country looks.

As you learn more and more about geography, you will use a great many maps. Maps are fun. You have been taking imaginary trips over the earth, but you can take real trips on a map. You can move your finger across a map and find out everything that the map has to tell you about the country.

Before you can read all the stories a map has to tell you, you need to learn how. Everything on a map is shown by a symbol. Symbols stand for real things on the earth. When you see the symbol for a mountain, you should think of a real mountain. On the map you have used, a white line stands for a river. When you see this symbol, you should think of a real river, with water in it.

The more map symbols you know and understand, the more a map can tell you. Do you remember when you were just learning to read? You knew only a few words. You could read your schoolbooks. All the words in them were easy. These books were made especially for you and for other children who were just learning to read. Perhaps you looked at a newspaper sometimes. It had some of the words you knew, but it also had many words you did not know. You could not understand the newspaper very well because it had too many words you had not yet learned to read.

The maps you have used so far are like the books you had when you were learning to read. The maps have had only a few easy symbols, just as your first books had only a few easy words.

The maps you have used are not pictures of the earth just as it is, but they are very much like pictures. Most of the symbols look like the things they stand for. Most of the maps have shown one whole side of the globe just as it would look. It seems to curve away from you at the edges, just as the globe does.

In the map on page 180 you are looking north over many hundreds of miles. The mountains seem lower and closer together far away from you, just as they would if you were really looking at them from above the earth. You cannot see them so clearly as you see the mountains near you, and at last they fade away in the distance.

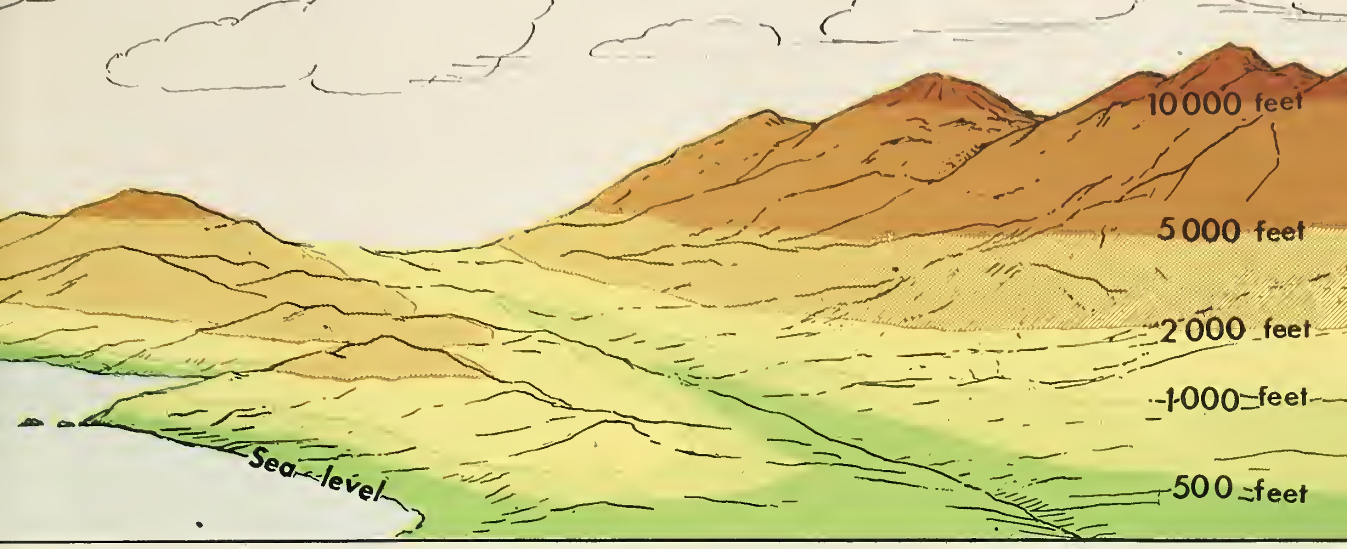
You will always need to use maps that are almost like pictures. You will find them in your schoolbooks and in newspapers and magazines. From these maps it is easy to imagine how a part of the earth looks, but they do not always tell you all you need to know about it.

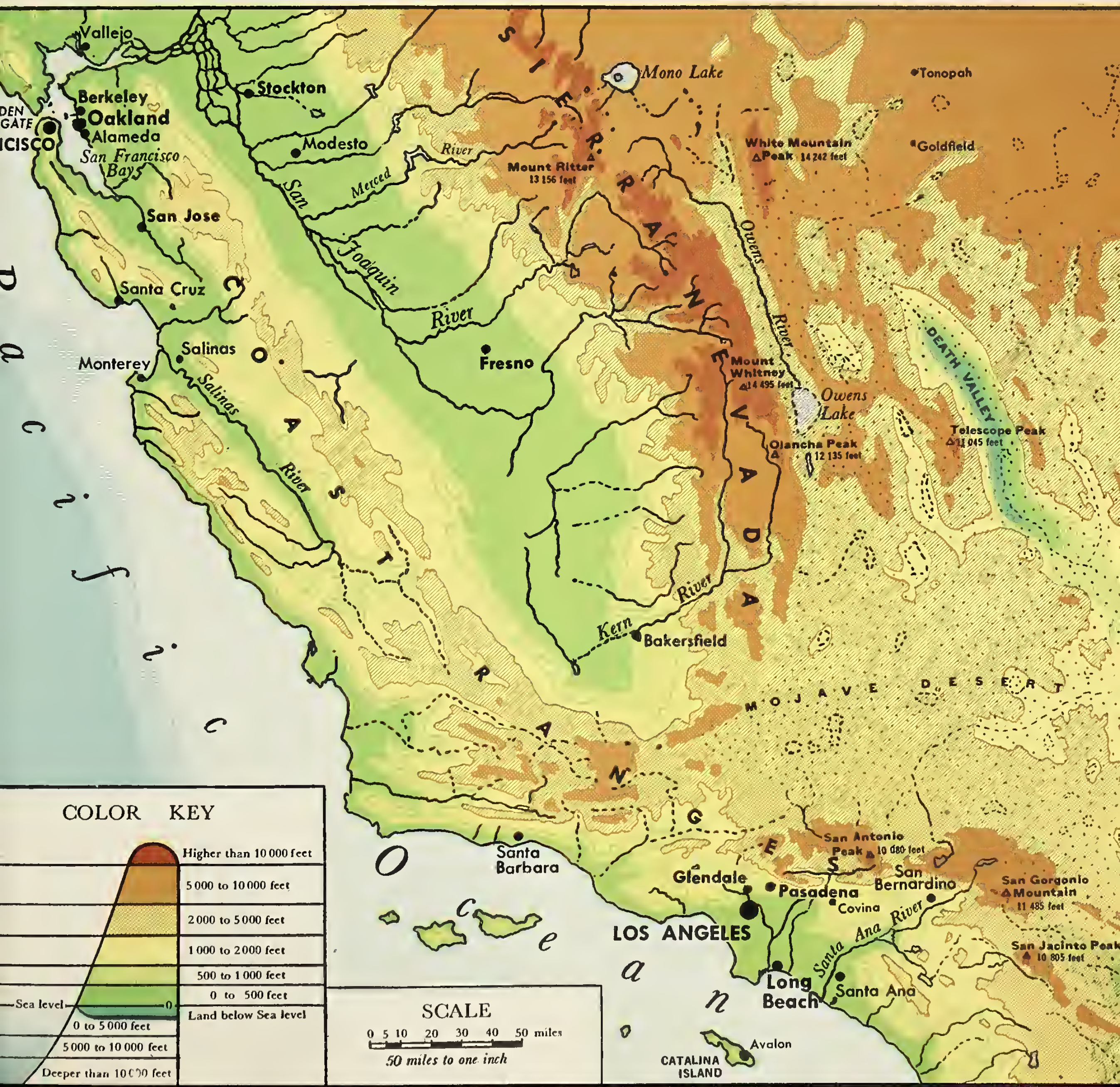
WHAT MAP COLORS MEAN

One kind of map you will often need to use is shown on the facing page. If you look at it carefully, you will see that it covers the same area as the map on page 180 and has many of the same names on it. Although the two maps show the same area, things do not seem to be exactly the same shape or the same distance apart on the two maps. That is because you are looking northward over the land in the first map. Things that are far away seem smaller and closer together. The colored map is drawn as if you were looking straight down on every part of the map.

Probably the first thing you notice about this map is that it has colors on it. These colors do not make the map look more like a picture of the earth. In fact, it looks less like a picture than the map on page 180. The colors are not the colors you would see on the earth. They are symbols to tell you how high the land is.

You can begin to understand what the colors mean by comparing the two maps.


10 000 feet
5 000 feet
2 000 feet
1 000 feet
500 feet
Sea level


Vallejo
Berkeley
Oakland
Alameda
DEN
GATE
ICISCO
San Francisco Bay
Stockton
Modesto
San Jose
Santa Cruz
Monterey
Salinas
Salinas River
San Joaquin River
Merced River
Fresno
Kern River
Bakersfield
P a c i f i c O c e a n
C O A S T R A N G E S
S I E R R A N E V A D A
Mono Lake
Mount Ritter 13 156 feet
White Mountain Peak 14 242 feet
Tonopah
Goldfield
Owens River
Mount Whitney 14 495 feet
Owens Lake
Olancha Peak 12 135 feet
DEATH VALLEY
Telescope Peak 11 045 feet
M O J A V E D E S E R T
San Antonio Peak 10 080 feet
San Bernardino
San Gorgonio Mountain 11 485 feet
San Jacinto Peak 10 805 feet
Santa Barbara
Glendale
Pasadena
Covina
LOS ANGELES
Santa Ana River
Long Beach
Santa Ana
Avalon
CATALINA ISLAND
COLOR KEY
Higher than 10 000 feet
5 000 to 10 000 feet
2 000 to 5 000 feet
1 000 to 2 000 feet
500 to 1 000 feet
0 to 500 feet
Land below Sea level
Sea level
0
0 to 5 000 feet
5 000 to 10 000 feet
Deeper than 10 000 feet
SCALE
0 5 10 20 30 40 50 miles
50 miles to one inch

Fritz Henle

Sea level is the level of the water in the ocean.

Where there are high mountains on the map on page 180, you find patches of brown on the colored map. You can see that brown must be a symbol for land that is high. In the same way you find that areas colored green look like lowland on the map on page 180.

Green Stands for Lowlands

Height of land on the earth is measured from *sea level.* If you put water in a dish and set it on a table, the top of the water is level. It is as high on one side of the dish as it is on the other. You may stir up waves in it, but as soon as it is quiet it will be level again.

No matter how much water you have, the top will be level if the water is not moving. This is true even if you have a whole ocean of water. Of course, the surface of the ocean is not exactly flat like the water in the dish, for it curves around the earth. It looks level as far as you can see, however. It looks like the picture on page 177. Except for movements of the water, the ocean is at the same level all along its shores. In the picture at the left, the people walking toward the right are on land that is just above sea level. The people at the left are standing on ground that is just below sea level. The water of the ocean covers their feet.

On the drawing above the map on page 185, a line stands for sea level. The next line above that is marked 500 feet. This means that all the land colored dark green is less than 500 feet above sea level. Imagine that you have a huge knife and that you have sliced off every hill and mountain and highland at the same level. You slice them all off at 500 feet above sea level. Then the part you have left would all be colored the darker shade of green on the map.

Land shown in dark green on the map is not all level. Some of it is quite hilly, but none of the hills is 500 feet high. The land may be as level as the land in the first picture on the opposite page or as hilly as the second. Since the hills are less than 500 feet high, they are still shown in dark green. Perhaps you would like to know just how much 500 feet is. You may measure it on the ground if you wish, but that will take a long time. It is a little less than a tenth of a mile. If you ask someone to measure one-tenth of a mile with his automobile speedometer, you will know about how long 500 feet is. You may also find out how long a block is in your town. In some towns a block is about 500 feet long.

The next color on your map stands for land that is a little higher. The color is light green. It is used for land that is more than 500 feet above sea level, but less than 1000 feet.

Land that is between 500 and 1000 feet high is usually called lowland. You cannot tell how high it is by looking at it. The two bottom pictures on the opposite page were taken on land that is

The picture above and the picture below both show land that is less than 500 feet above sea level.

Courtesy Los Angeles County Chamber of Commerce

Both of the pictures below were taken on land that is between 500 and 1000 feet above sea level.

Kaufmann & Fabry Co.

Paul's Photos

Orville Logan Snider

The mountain in the first picture and the lower land in the second picture are in yellow areas of the map.

Century Photos

between 500 and 1000 feet high. The left-hand picture was taken near the coast, a little east of the city named Santa Barbara on your map. It is on land that slopes up from the ocean to the mountains. Here there is only a narrow strip of land shown on the map in light green.

To see where the lower right-hand picture on page 187 was taken, find the city of Oakland on the map on page 185. East of Oakland you will see a strip of dark green, then light green, then dark green again. Beyond that is more light green, southeast of Oakland. You can see from the picture that the land is very hilly. You can see it also by turning to the map on page 180. The colored map does not tell you whether the land is hilly or level. It tells you only how high it is. There is nothing on the colored map to tell you that the land shown in the two pictures would not look the same on the earth.

Yellow Means Higher Lands

In the first picture on the opposite page the level land is between 500 and 1000 feet high. Look at the line that shows 1000 feet above sea level in the drawing at the top of page 185. If such a line were drawn on the picture, it would be drawn part way up the slope of the mountain.

In the second picture on the opposite page the lower land is between 1000 and 2000 feet above sea level. The mountains at the back of the picture are much higher. The picture was taken a little east of San Bernardino, which you can find on the map on page 185. You see that it is in the part colored yellow. The mountain in the picture is Mount San Antonio, the same peak you saw in the pictures on page 182. You would probably like to find San Bernardino on the map on page 180, too.

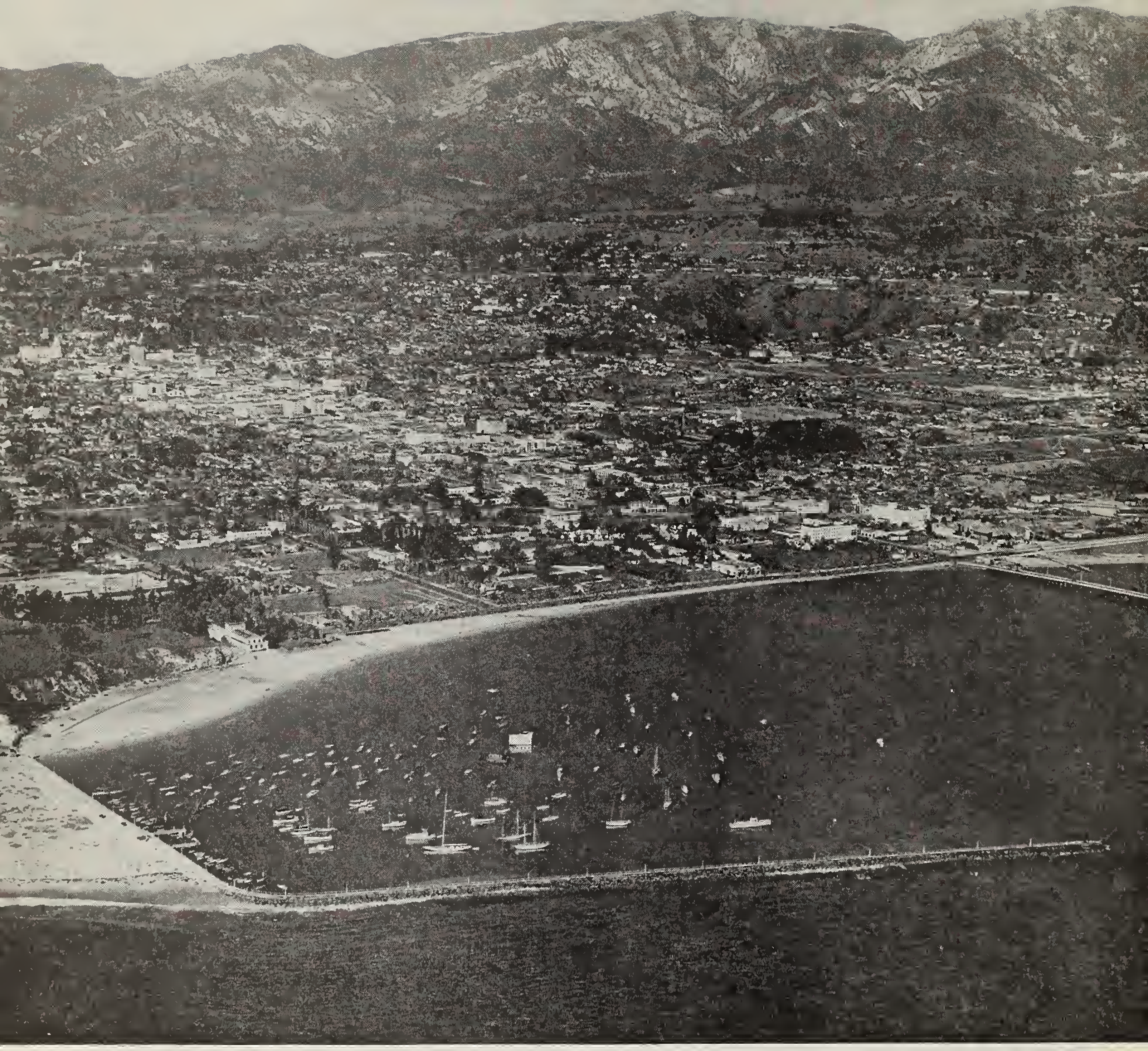
In the bottom picture on the opposite page the trees beside the road at the right are palms. Those to the left of the road are orange trees. Neither kind will grow where the weather gets very cold. You know that even winters must be warm where this picture was taken.

Now climb up the mountain at the back of the picture, in your imagination, of course. It is really much farther away than it seems. As you go up, the air gets colder and colder. When you are near the top, there is snow on the ground. You know that high land is cooler than low land. From this picture you see that a height of 1000 to 2000 feet is not enough to bring cold weather. You must climb the mountain to find a place that has cold weather because it is high.

Brown Is for Highlands

Now turn back to the map on page 185. The drawing at the top of the page tells you that light brown stands for a height of 2000 to 5000 feet. Find Santa Barbara on the map. It is on the edge of the ocean. You know that the southern part of Santa Barbara must begin at sea level. There is a very narrow strip of dark green, then one of light green, then one of yellow. Finally there is a narrow strip of light brown. What do you suppose that brown strip really looks like? Perhaps the strips of color make you think of land going up like stairsteps. If you want to know how it really looks, you can see it in the picture on page 190. The top of the low mountains is about five miles from the shore.

Suppose we start out from the shore to climb the mountains. At first we walk easily along streets that are almost level. Before long, though, we come to slopes that are too steep to climb. There are houses on the hillside, but the streets wind back and forth across the slope. Slopes are easier to climb if you go up



Spence Air Photos

To show the land in this picture, the map maker needed all the colors from dark green to light brown.

at a slant instead of climbing straight from the bottom to the top.

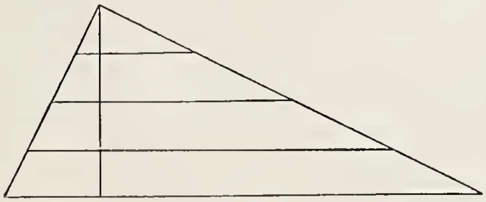
Beyond the town we find still steeper slopes. The slopes are steeper in some places than in others. We look for the easiest places to climb, even though this means that we have to walk much farther. If we turn around now, we find that we are looking down at the town and the shore. We have crossed the land that is colored dark green on the map and climbed into the light green. Of course, there is no difference in color on the land. We did not know when we had climbed exactly 500 feet. The only way we can tell is by comparing our map carefully with the land around us.

In climbing 500 feet, we have walked about two miles from the shore. We cannot measure back along the way we have come to find out how high we are. We should have to measure straight down.

Since this is an imaginary climb, we can put in anything we like. We are going to imagine we have a friend flying over the ocean in an airplane. He is flying 500 feet above the water. Now he flies straight toward us until his wingtip brushes the hillside. Where his wing touches the hillside the land is exactly 500 feet high. It is somewhere along the line that divides the dark green from the light green on your map. We might ask our friend to measure the heights of 1000 and 2000 feet for us in the same way.

We find the slopes much steeper now, and we have to look carefully for the easiest places to climb. At last we reach the top. We are now in the part shown in light brown on the map. The ocean and town are far, far below us. We know that we are more than 2000 feet higher than the water, for light brown on the map stands for land between 2000 and 5000 feet higher than the ocean. In fact, if we are on one of the highest spots, we are more than 3000 feet above the ocean. Our map does not tell us this because it shows in the same color all land between 2000 and 5000 feet high.

From the top, we see that the mountains are not very wide. Slopes go steeply down the other side. We can see this from the map, too. When the strips of color are narrow and close together, we know that slopes are steep. Perhaps you will find this easier to understand if you look at the little drawing below.



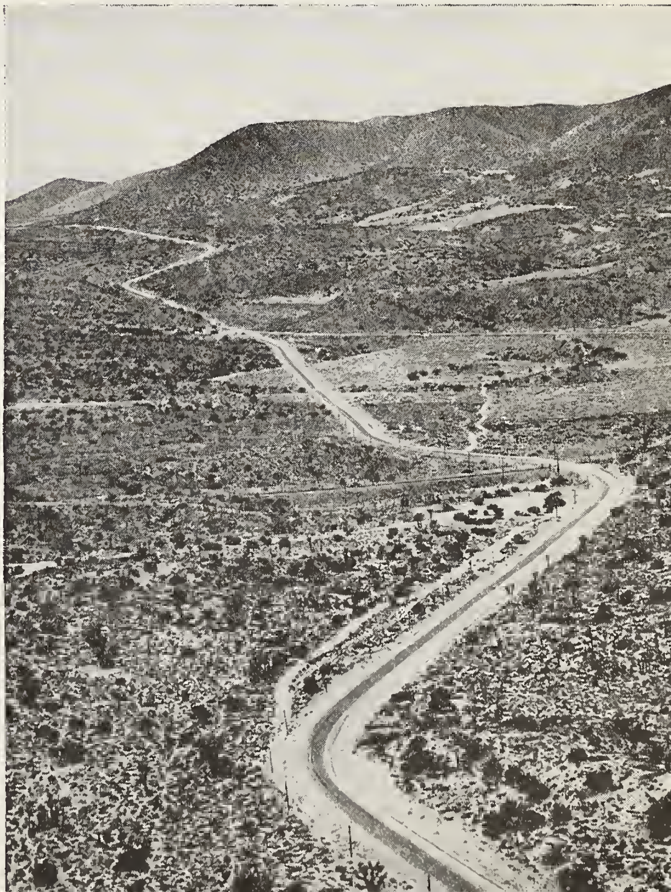
Pretend that the drawing is a hill, sliced through the middle. We are going to climb the hill. We shall have to make ourselves very small to climb it. In fact, we should be just about the size of your pencil point.

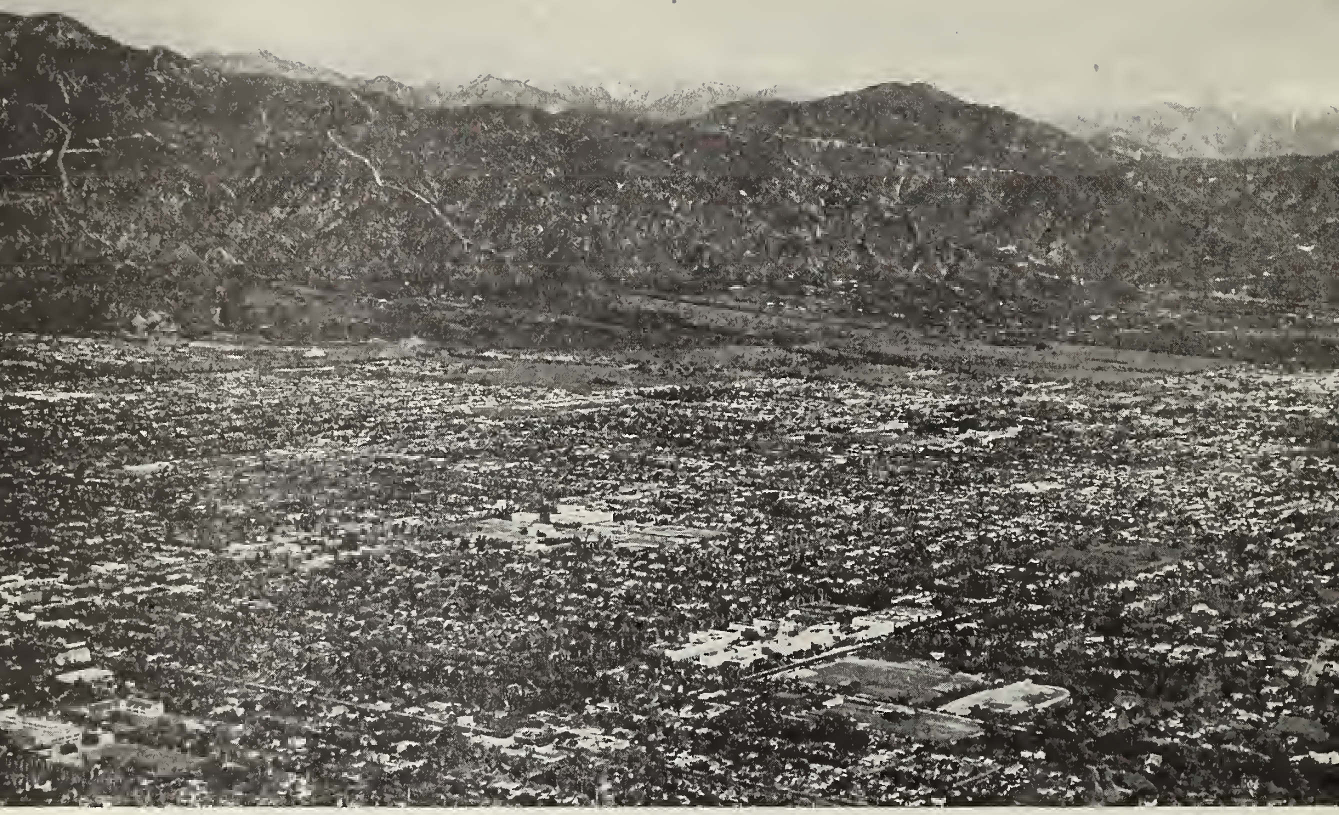
The hill is one inch high and two and one-half inches wide. Lines are drawn across it a quarter of an inch apart. No matter which side of the hill we climb, we shall be one inch higher than we were when we started, and we shall cross all the lines that are a quarter of an inch apart. If we climb the left side of the hill, we shall travel one inch upward and one-half inch to the right. If we climb the right side of the hill, we shall travel one inch upward and two inches to the left. When we climbed the mountains back of Santa Barbara, it was like climbing the left side of the hill.

Land that is between 2000 and 5000 feet high is not lowland. It is not always made up of mountains, however. For example, the picture below was taken in an area that your map shows in brown. It was taken northeast of Los Angeles,

This land is between 2000 and 5000 feet high.

Spence Air Photos from Ewing Galloway





Ewing Galloway

The farthest mountain peaks are more than 5000 feet above sea level and are dark brown on the map.

beyond the high mountains. All the land in the picture is light brown on the map.

You are now ready for a trip into the dark-brown parts of the map on page 185. As you can see from the drawing above the map, dark brown stands for land that is 5000 to 10,000 feet high. That is a difference of 5000 feet. In other words, when we climb from sea level to the lowest land shown in dark brown, we have climbed 5000 feet. When we climb from the lowest land shown in dark brown to the highest land in the same color, we have climbed another 5000 feet.

A large part of the land colored dark brown is made up of mountains. When you see a strip of dark brown between areas of lower land, you may be almost sure you will find mountains there. For example, look at the picture above. You are flying over Pasadena in a plane and you are looking toward the northeast. The map on page 185 shows that most of Pasadena is on land colored light green. It is between 500 and 1000 feet above sea level.

The northern part of the city, to the left in the picture, is in the yellow area. Pasadena is on the line that is drawn through places exactly 1000 feet above sea level. Part of the city is a little less than 1000 feet high and part is a little more. You can see very clearly that, beyond the city, the land slopes upward toward the mountains. At first the slopes are not steep.

The mountains begin suddenly. The strip of yellow is very narrow. This shows you that here the slopes are steep. Beyond the yellow you come to a wide area of light brown. The ridge of dark mountains you see beyond the city is in the light-brown area. Farther away is another mountain ridge that seems lighter in color in the picture. It looks lighter partly because it is farther away and partly because there is snow on the top. This ridge of mountains makes up the dark-brown area on the map.

The high mountain at the right is your old friend, Mount San Antonio. You saw this mountain from other directions on pages 182 and 188. The peak of San Antonio is almost 30 miles away. Between the first ridge of mountains and the higher ridge beyond, there is a deep river valley. The lower part of it is less than 2000 feet high. You cannot see the valley in the picture, but you can see it on the map on page 185. You can see it also on the map on page 180.

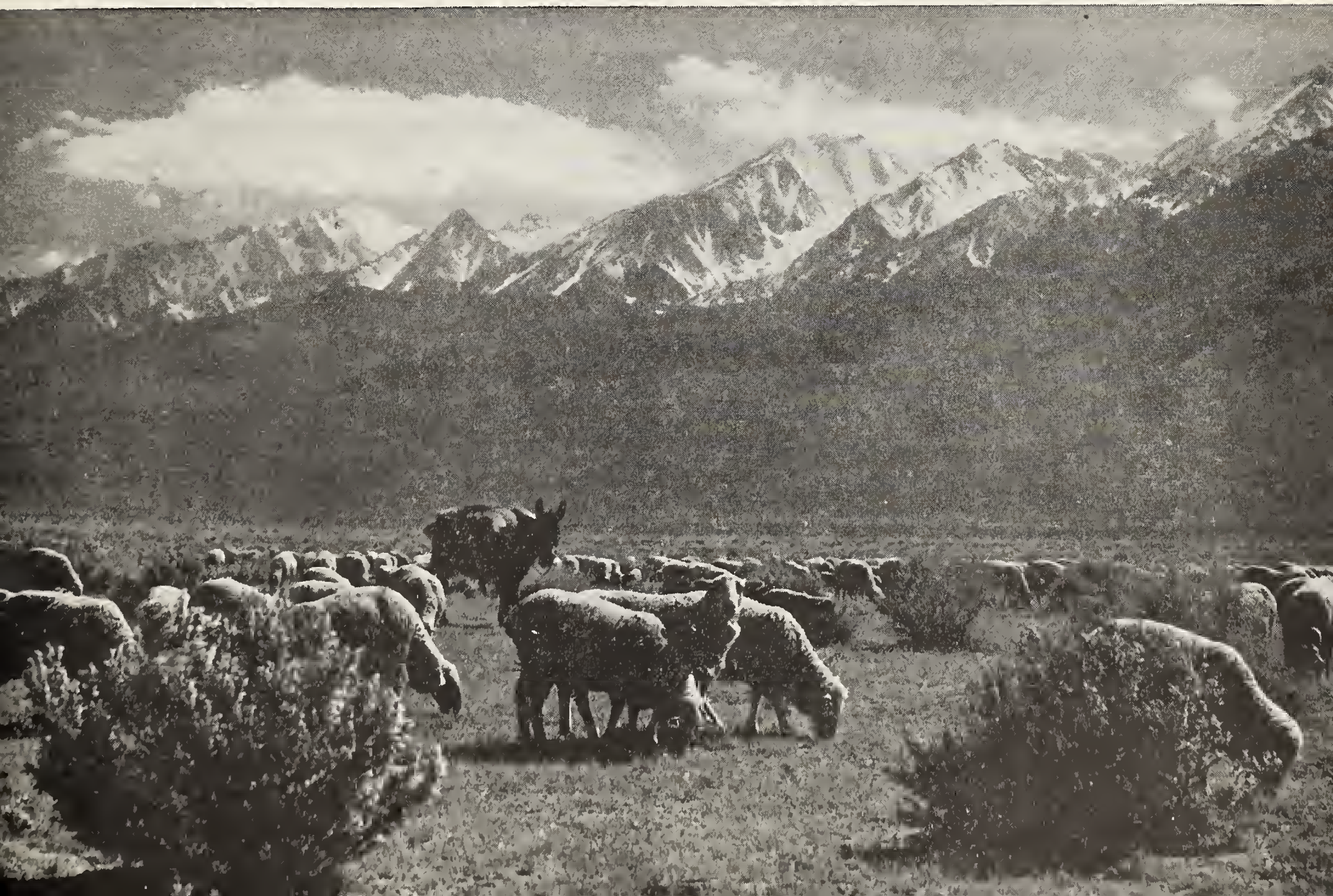
The mountains do not look much higher than the mountains near you. That is because they are so much farther away. Something in the picture tells you very plainly that these faraway mountains are much higher. They have snow on them, while the nearer mountains have none.

In other countries we have seen people living among the high mountains. The high mountains we have seen so far in our own country have all been steep and rocky. We have not seen farms or animals on them. Now we are going to visit high land that people can use. The next three pictures show you some of the things you will see.

We are going to take a quick trip up to the northern edge of the map on page 185. Find Mono Lake. You see that the land all around it is shown in dark brown. It is between 5000 and 10,000 feet above sea level. The picture below was taken east of the lake. We are standing in a high mountain pasture,

Here you see plants growing and sheep grazing on a mountain pasture more than 5000 feet above sea level.

Ewing Galloway



Philip Gendreau

Mountain roads often follow valleys like this one.

with sheep all around us. They are busy eating. The herdsman is with us. He has just brought his sheep to the pasture.

Sheep can live on these high pastures only in summer. In the winter the land is buried deeply in snow. The herdsman brings the sheep to the high mountains in summer and takes them down before the land is covered with snow.

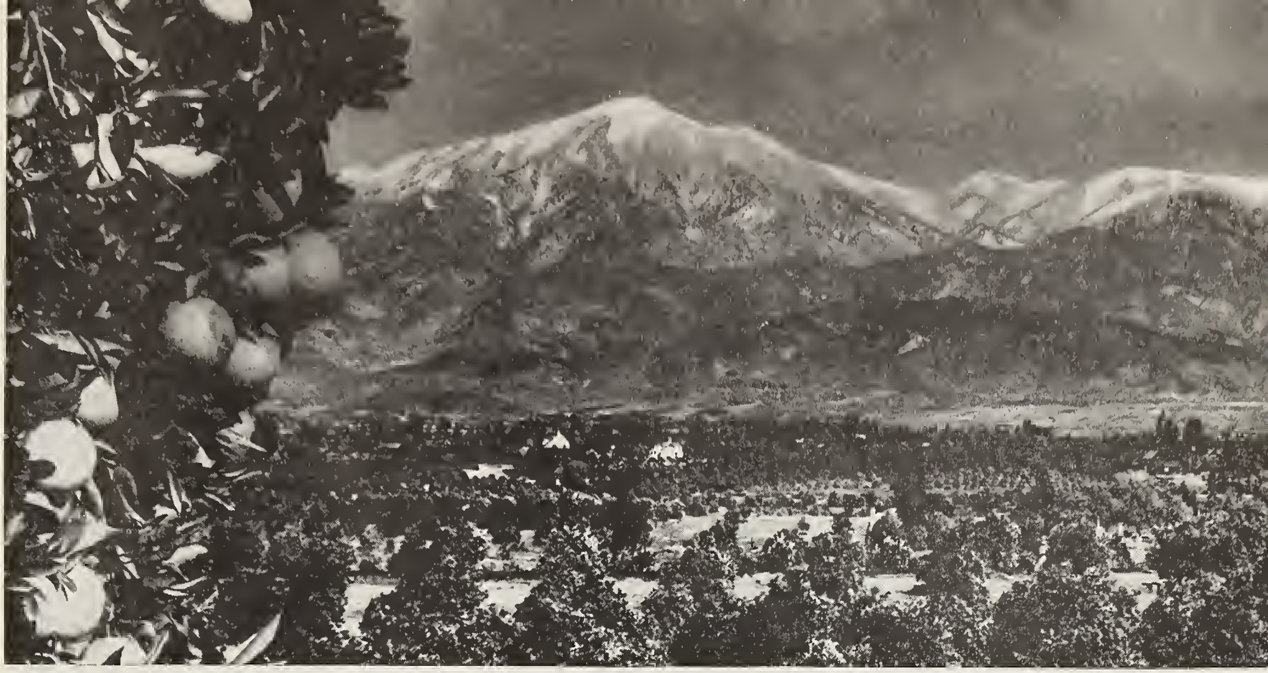
The sheep are grazing on land that is nearly level. Beyond them you see a long row of high peaks. The level land is part of the mountains, too. It is a high mountain valley.

You know that the mountain valleys may be very high. They are valleys because there is still higher land on both sides. Often there is a stream at the bottom, but not always. There is none in the valley in the picture.

Roads into mountains usually follow valleys. In the picture at the left we are on a mountain road. We are standing

The farmer is planting a crop on land more than 5000 feet high. Even here there are areas of level land.

Ewing Galloway



Courtesy Los Angeles County Chamber of Commerce

The top of the highest mountain peak at the back of the picture is a small red dot on the map on page 185.

at the edge of the road, looking down at the bottom of the valley. The road is part way up the valley slopes. The bottom of the valley is far below us. The road is not far from the mountain pasture we saw in the picture on page 193.

We can even find farms near Mono Lake. We shall have to visit them early in spring to find a scene that looks like the lower picture on page 194. The farmer lives in a high mountain valley, but he has enough level land for plowing and planting. He tells us that the peaks in the background do not have snow on them in the summer. They are higher and colder than the valley farm. Spring comes to them later, but it will come. There are trees all the way to the top, and so we know that the snow does not stay there the whole year.

The Highest Mountains Are Red on the Map

Probably you have been noticing a few spots of red scattered over the map. You see that they are small and do not stand for very large areas. The drawing at the top of page 185 shows red only on the highest mountain tops.

Red on the map stands for all land that is more than 10,000 feet high. Only a few places in the world have level land at this height. Nearly always red stands for rough mountain peaks and ridges. Usually the areas are small.

No doubt you noticed that Mount San Antonio is shown on the map by a small spot of red. On most of the pictures of it that you have seen there are other mountains near it. It was hard to see that it is higher than the other peaks near by. The picture above really shows us that San Antonio is higher than its neighbors. In this picture we are standing on land that is less than 1000 feet high, light green on the map. The mountain top is about twenty-five miles away and one and three-quarters miles higher than we are.

Mount San Antonio is 10,080 feet high. Only the top 80 feet of its height extends into the area colored red. This is not so much as the part covered with snow.

Orville Logan Snider

Mountain roads have many curves. They wind through crooked valleys and climb steep slopes in zigzags.

Paul's Photos

On the map, of course, you imagine you are looking straight down at the mountain. When you look straight down from an airplane, hills and mountains seem to flatten out. You cannot see them very well. It is only when you look across the mountain tops that you can see how high mountains really are. You can see them best of all when you are standing on the ground on a lowland, if you can find a place where other mountains do not hide the tall ones.

Since all the land above 10,000 feet is colored red on the map, you cannot tell just where the very highest points are. You have been looking at the red spot that shows where Mount San Antonio rises to more than 10,000 feet. You can see in the picture that the mountain rises to a point. That is the peak or summit of the mountain. You know that it must be within the red area on the map, but you cannot tell exactly where. The map maker put a little symbol on the map to show you the highest point. It is a three-cornered mark like this: △. Beside it you see the name of the mountain and the figures 10,080 to tell you the height.

Look carefully where the name is placed. The name does not show you where the mountain peak is. Only the tiny three-cornered symbol stands for the mountain. The map maker put the name as near the symbol as he could, but it would not have made any difference if he had put it a little higher or lower or to the right or left. He could not put the symbol anywhere else, for it has to show exactly where the mountain peak is.

The names on a map do not stand for exact places on the earth. They only tell you the name of something that a symbol stands for.

If you travel straight north from Los Angeles on your map, you will come to a much larger red area. It is easy to travel straight north to the red area on the map, but on the earth about the only way you could do it easily would be to fly. If you did not wish to fly, you could go most of the way by automobile, but you could not go straight north because of the mountains. You would find mountains even in the light-brown area of the map.

Roads through mountains are almost always winding. Even to get out of Los Angeles toward the north you would probably take the road shown in the top picture on the opposite page. Later you might take the road shown in the bottom picture. The road is the white line that wanders back and forth across the mountain side. It cannot run straight up the mountain side because the slope is too steep for an automobile to climb. You have still not reached land that is more than 10,000 feet high, however.

You have seen Mount San Antonio, with a small spot of red standing for the part of the peak that is more than 10,000 feet high. You know, though, that Mount San Antonio is only 10,080 feet high. It gets into the red color on the map by only 80 feet. All around it are other mountains which are almost as high, but they do not quite cross the line between brown and red.

In the mountains you are visiting now, there are much larger areas of red. Here it is not just the highest peaks that rise above 10,000 feet. The land between the peaks is also more than 10,000 feet above sea level.

If you look at the southeastern part of the red area, you will find the symbol for a mountain peak. Beside it you read its name. It is Mount Whitney, the highest spot in the United States. The figures tell you that it is 14,495 feet high. On page 198 you see a picture of Mount Whitney. It is more than 10,000 feet higher than the mountains back of Santa Barbara which you saw on page 190, but it does not look higher. Mount

Ewing Galloway

All the land in the picture is more than 10,000 feet above sea level. It is all in the red part of the map.

Whitney does not look very high because you are on land that is almost as high.

You have seen that mountains are of many different shapes. Sometimes they rise to a sharp peak, like Mount San Antonio. Sometimes there are ridges. Sometimes there are long rows of peaks, one after another, as you saw in the picture on page 193.

Mount Whitney is not just like any of them. It is part of a sharp ridge that runs for a long way. Mount Whitney rises a little higher than the rest. The map maker put the mountain symbol on the very highest point, though it is only a little higher than the rest.

Valleys and Slopes

Perhaps you have wondered why the edges of the red area are not smooth. They go in and out in the strangest kind of shapes. In places the brown color cuts deeply into the red. These places are valleys. Many of the valleys have rivers in them.

Rivers are shown by white lines on the maps you used earlier in this book. They are shown by white lines on the map on page 180. On the map on page 185, however, they are shown by black lines. The map symbol for a river is a line curved as the river itself is. There is no reason for using a white line as symbol on some maps and black on others, except that white shows better on a gray map and black shows better on a colored map. You may even see a map some day with blue river symbols.

Now travel straight west on the map from Mount Whitney. You can do this only on the map, of course. On the land itself you could not even imagine such a trip. You would be going up and down ridge after ridge almost as steep and hard to climb as Mount Whitney itself. The way looks smooth on the map because the land is all more than 10,000 feet high.

You will have no trouble at all making the trip on the map.

Since you are traveling on the map, the trip is easy, and you soon come to a place where the brown color cuts far into the red. In the brown you find the symbol for a river. As you have seen on earlier maps, the name of a river is printed beside the line that stands for the river. If you travel southward along the black line, you find the name Kern River. This is the name of the whole river, all the way into the mountains.

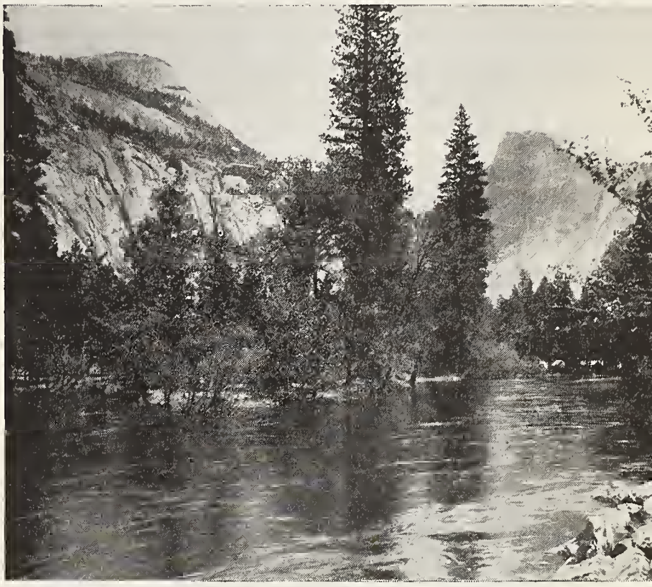
In the mountains the river looks like the top picture on this page. The land slopes steeply down toward the river. All land that slopes toward a river is called the valley of the river.

Every river has a valley. You cannot always see that this is true on the colored map. You can see it only where the valley cuts through one color into another. A shallow valley may show, and a deep valley may not show. It all depends on whether it cuts down from the height shown in one color to the height shown in another color.

Northwest of this large area of red is another red area. The San Joaquin River flows between the two red areas. If you look still farther north, you will find the Merced River. In the middle picture you see how the river looks high in the mountains. This picture was taken close beside the river, and you cannot see much of the valley. If you walk down the river a way and climb the high, rocky cliffs, you can see the whole width of the valley as it looks in the lower picture. You cannot see the river here because it is hidden by trees, but you can find the place from which the middle picture was taken. If you follow the rim of the valley at the right, you will come to a sharp point of rock far back in the picture. Find it at the right in the middle picture. The rock shows where the middle picture was taken.

Orville Logan Snider

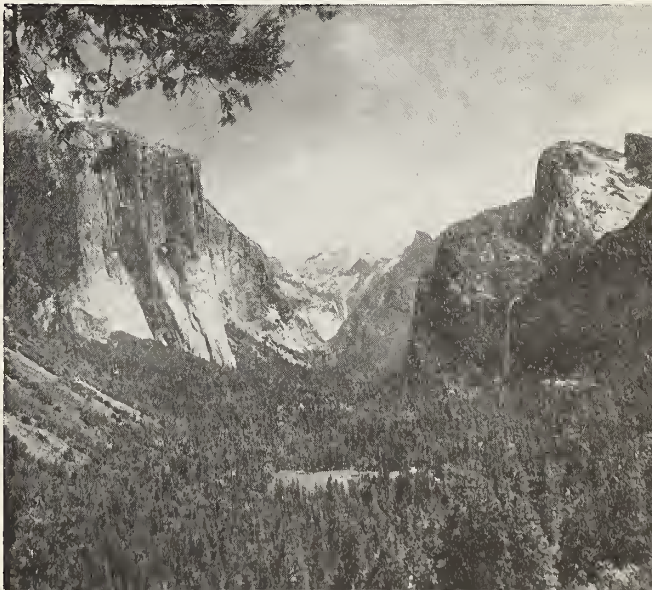
The small river is a crooked black line on the map.



De Cou from Ewing Galloway

The same valley is shown in both these pictures.

De Cou from Ewing Galloway



Valleys are not usually so narrow as this. Any strip of land with higher land on both sides is called a valley. If you look at the pictures you have seen earlier in this book, you will find many valleys. There are valleys so wide that you cannot see both sides in a picture or on the earth itself. You can see such valleys only on a map.

You can see valleys easily on the map on page 180. On this map they look like pictures of valleys. Find the very large valley near the center of this map. It runs north and south between the Sierra Nevada and the Coast Ranges.

Now if you turn to the map on page 185, you can find the same large valley. You know the valley is here because of what the colors tell you. They tell you that here is a large area of lowland with higher land nearly all around it. They tell you other things, too. You can see that the bottom of the valley is probably nearly level, since it is all below 500 feet. Then you can see that there must be steep slopes at the sides because the strips of color are narrow. You can see, too, that the slopes on the eastern side of the valley are higher and steeper than those on the western side.

The drawing at the top of page 185 is a picture of a deep valley. Instead of using colors that you would see on the earth, the artist used map colors. He imagined that the earth was really colored green up to 500 feet above sea level. On top of that he imagined a layer of light-green earth, then a layer of yellow, and then layers of light brown, dark brown, and red. There is not much of the red layer because very little land on the earth is more than 10,000 feet above sea level.

You can easily see for yourself how to tell from the colors whether slopes are steep or gentle. Get a box of modeling clay in colors. You may not be able to get all the colors that are on the map, but you can probably get a box with strips of blue, green, yellow, brown, and red clay. Lay the strips on top of one another with blue on the bottom, then green, then yellow, then brown, then red. Use a larger piece of blue than of the other colors. Blue stands for the ocean, and you want some of it to show beyond the colors that stand for land.

Now cut a valley in the clay. Cut the lower part of the valley all the way down to the green. Make one side slope more steeply than the other. Cut away more of the clay around the valley until you have only a little red left as mountain tops. Make mountains and hills of different heights. Some will reach only into the brown and others into the red. Make the green slope down gently to the edge of the ocean.

If you are careful, you can make your model look very much like real hills and valleys, except for the colors. They are map colors. If you look at your model from the side, it will look like the drawing on page 185. If you look at it from the top, it will look like the map.

The Key Explains the Map

All colored maps have something to tell you what the colors mean. So far you have been using the drawing at the top of the map, with pictures of hills and mountains and valleys. Now that you know more about map colors and what they mean, you do not need a real picture to tell you about them.

The maps you will use have a key to tell you what the colors mean. You will find the key to this map in the lower left-hand corner. You have used keys to unlock doors. You may think of this as a key to unlock the meaning of the map. The colors are arranged as they are in the drawing at the top of the page.

The figures at the side tell you what the colors mean. Any place exactly on

Orville Logan Snider

Here, as you can see, the water is very shallow. The bottom of the ocean is only a few inches below sea level.

the line between dark green and light green is exactly 500 feet above sea level. Places on the line between light green and yellow are exactly 1000 feet above sea level.

On the map you cannot tell exactly how high a place is unless it is on the line where two colors meet. For other places, you know only that they are more than the figure at the bottom of the color on the key and less than the figure at the top.

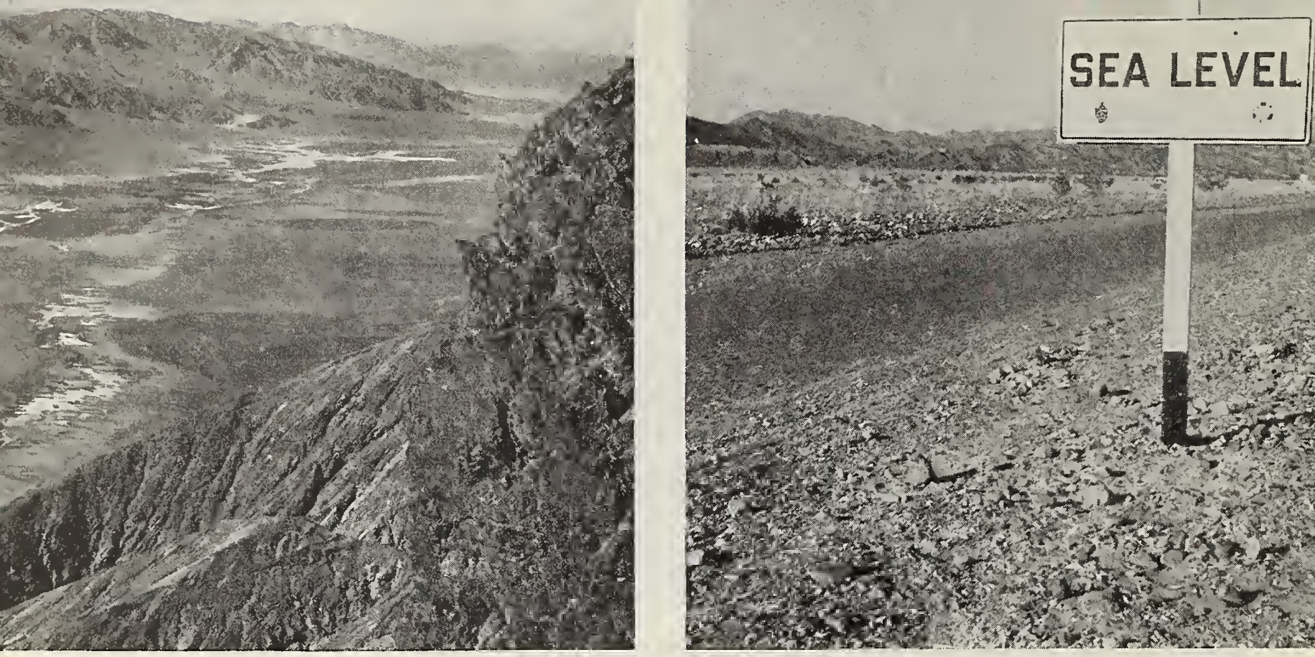
The key has three shades of blue at the lower left. These shades tell you how deep the ocean is. The depth is measured from sea level to the bottom of the ocean. The dark blue stands for water that is more than 5000 feet deep. A lighter shade of blue shows where the water is more than 500 feet deep but less than 5000. The lightest shade of all shows where the water is less than 500 feet deep.

Usually there is a strip of very shallow water close to shore. If there is a sandy beach, it slopes into the water very gently. If you have ever gone bathing in the ocean, you know that you can walk out a long way before the water reaches your chin. You can see in the picture above that the water near shore is only a few inches deep.

Sometimes the coast is rocky, as in the picture below. Then the water is usually deeper at the edge. Even so, it is not often more than a few feet deep. You would have to go much farther out to find water even 500 feet deep.

The water here is deeper than in the picture above, but it is still colored the lightest blue on the map.

De Cou from Ewing Galloway



Paul's Photos

Fritz Henle

As you see in the pictures, land below sea level does not look different from other land that has little rain.

There is one other color on the key. It is another shade of green, and it stands for land that is below sea level. If you looked carefully over maps of the whole earth, you would find only a few spots in this color. You will never find land below sea level where there is much rain. It is always in dry parts of the earth. If there were much rain, the very low land would fill with water and form a lake.

One area that is below sea level is Death Valley, near the eastern edge of the map on page 185. In the picture above, you are looking down into Death Valley. You can see that the bottom of the valley is almost flat. The rocky slopes on both sides of the valley are very steep. Death Valley is dry, but sometimes it does have a hard rain. Then the water runs down to the lowest part of the valley and forms a shallow lake. The lake soon dries up, however, until there is another rain.

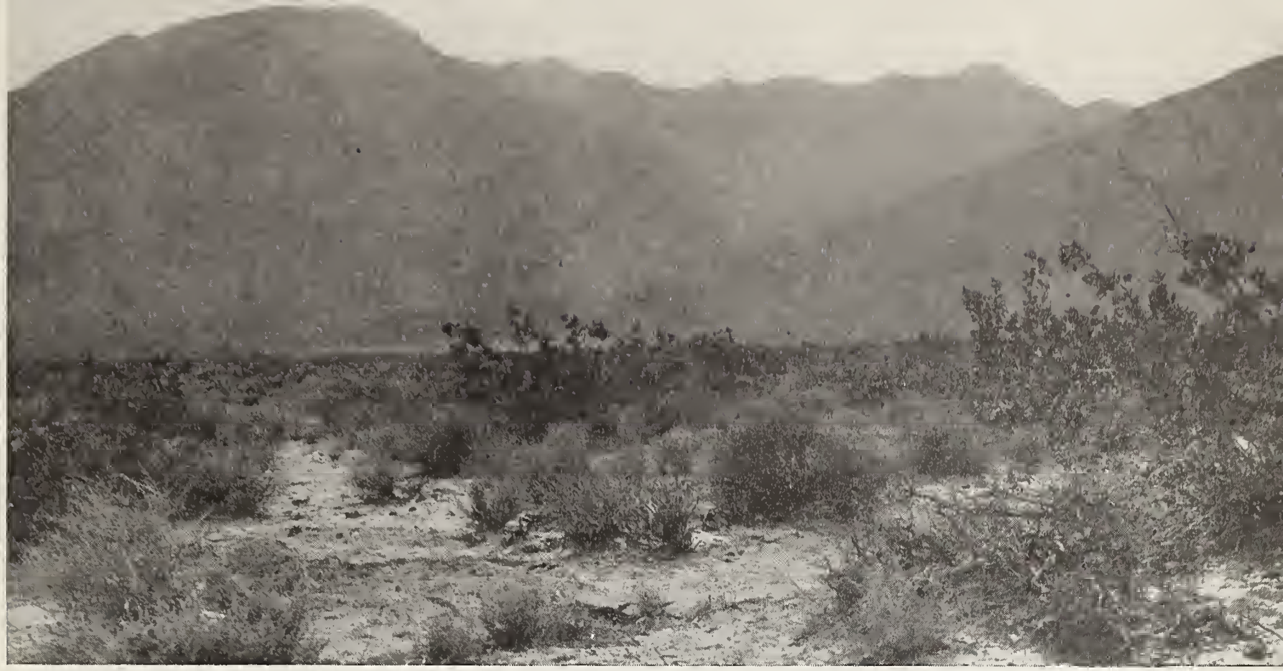
The picture above was taken in Death Valley. The sign tells you that this spot is exactly at sea level. If the earth had lines like the map, the line for sea level would run through the base of the sign. As you see, the land slopes very gently here. It looks level all the way to the base of the mountains, but it is really sloping upward just a little.

PLACES AND DISTANCES

Now you have seen what all the colors on the map mean. They are symbols to show how far the land is above or below sea level. There are other symbols on the map, too. All the symbols stand for real places on the earth. You can learn to read everything they have to tell you.

Where the Land Is Dry

While you are looking at the neighborhood of Death Valley, there are two other symbols to notice. Together they tell you that the land is dry. First, you see that a large area is covered with dots,



Ewing Galloway

Dots scattered over an area on the map should make you think of land like this. It may be at any height.

like this: ∴∵∴. The dots are a symbol that stands for a desert. You have seen deserts in other parts of the earth. You know they are land that is very dry, where rain seldom falls.

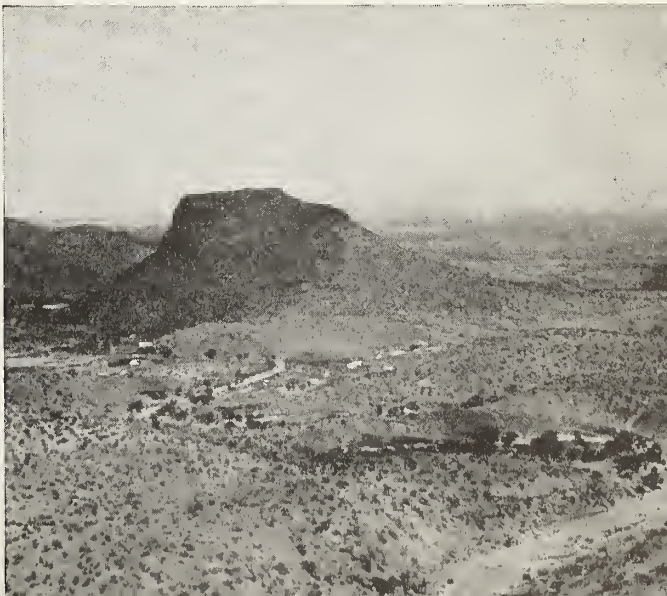
Above is a desert picture to compare with the pictures of deserts in other parts of the world. The picture was taken in the area marked Mojave Desert on your maps. Many plants grow in the desert, but they do not look like the plants in rainier places. They are special kinds that can get along without much rain. You see, too, that they do not cover the ground. Bare earth shows between them. Parts of a map that seem to be dressed in polka dots should make you think of land that looks like this picture.

The other symbol you should notice near Death Valley is a broken line like this: – – – – – –. The picture at the right shows you what it stands for. Find the light line that curves across the picture to the right and then directly toward you. This is a dry stream bed. After a rain, it has water in it, but it is soon dry again. The stream bed looks almost white because it has sand and gravel in it, as most other stream beds have. All it lacks is water.

You have probably recognized the symbols for lakes on your maps without being told what they mean. On the map on page 180 the map maker has made pictures of lakes. You can see how much they look like the picture of a lake on

The bed of a dry river crosses this desert land.

Kaufmann & Fabry Co.



James Sawders

Symbols that stand for lakes on a map look very much like the lake in this picture, except for the color.

this page. On the map on page 185 the map maker drew the outline of a lake, just as he did on the other map, but he colored the space inside the outline blue, to stand for water. The only difference is that you are always looking straight down on the lakes in the colored map. The outline is always the true shape of the lake.

In the desert you will see symbols that look like the outline of lakes, but the outlines are broken lines and there is no blue inside. These stand for lake beds that have water in them only part of the time. They are like the rivers shown by broken lines.

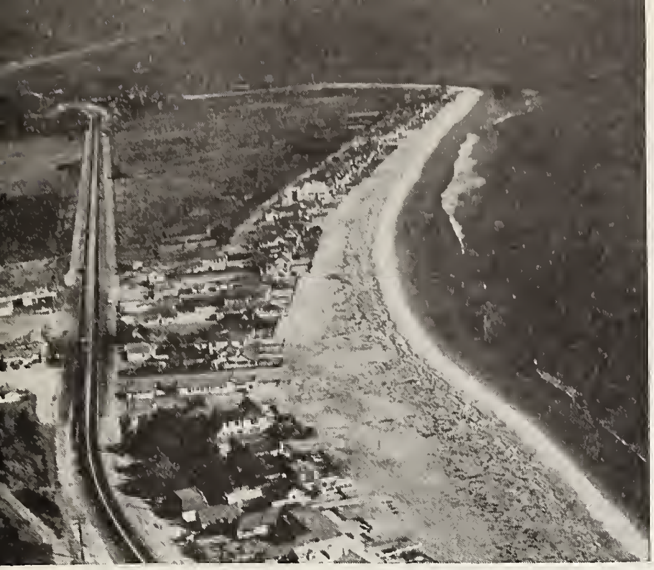
Coast-Line Symbols

You have been seeing coast lines on all your maps. You learned at the beginning of this book how a coast line looks on one kind of map. It is much the same on the colored map on page 185. The coast line has blue for water on one side and land colors on the other. The map shows where it is, but it does not show how it looks. The coast lines in the top two pictures on the opposite page would both be just lines on the map. They would look the same.

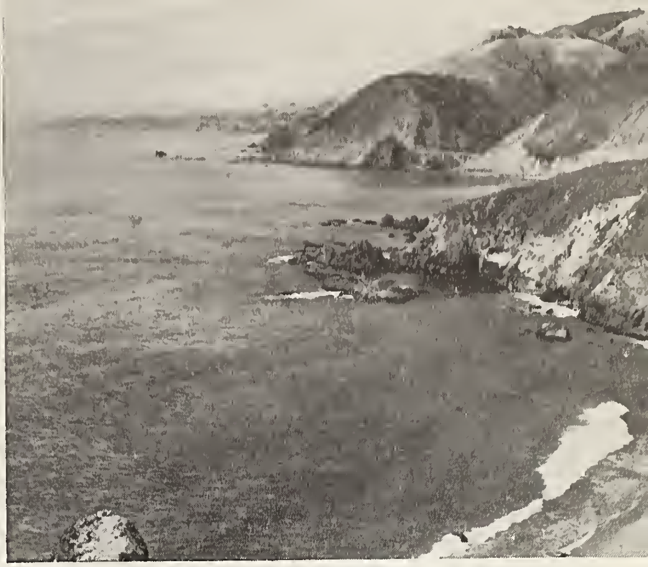
As you can see from the map, a coast line is never straight. Sometimes it curves inward sharply, letting the water extend into the land. The water that is partly surrounded by land is called a bay. The water in the middle picture on the opposite page is a small bay, not large enough to show on the map.

If you look far up toward the top of the map, you will find a large bay called San Francisco Bay. The bottom picture on the opposite page was taken across San Francisco Bay. You are in the air over the city of San Francisco, looking across the bay toward Oakland. This bay is so large that you can see only a little of it in the picture.

Some bays have wide openings to the ocean. Others are nearly surrounded by land. San Francisco Bay is almost surrounded by land. The map tells you that

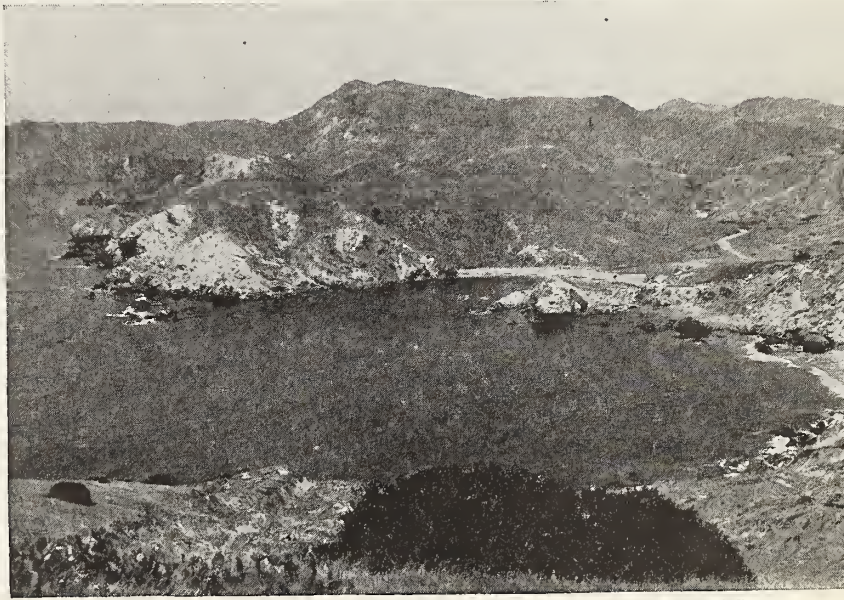


Spence Air Photos from Ewing Galloway



© Screen Traveler from Gendreau

These pictures all show sections of coast line. In the first the shore is low and flat. In the second steep hills slope down to the water. The third shows a small bay, and in the fourth you are looking across a large bay. On your map, all shores have the same symbol, a black line between land and water.



Ewing Galloway

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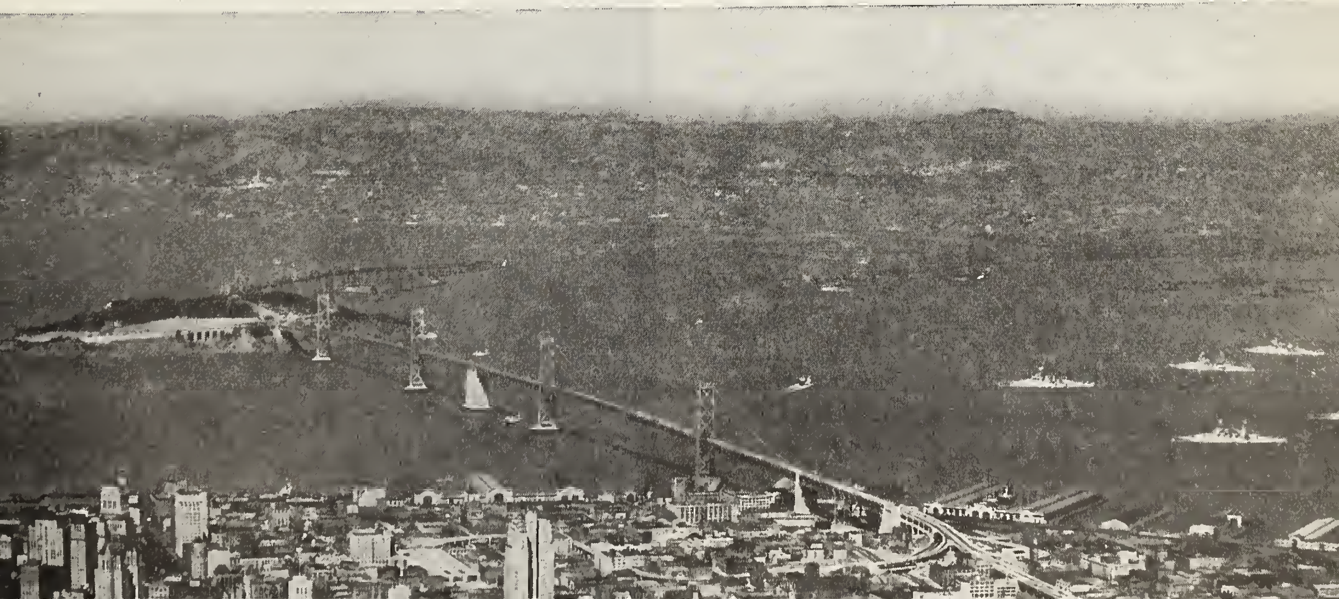


Courtesy Redwood Empire Association

Here you see both sides of the Golden Gate, the strait that leads from the ocean to San Francisco Bay.

there is only a narrow channel leading into the bay. You see a picture of it above. A channel like this is called a strait. Straits lead from one large body of water to another and have land on both sides.

The name of the strait is the Golden Gate. You will find this name on the map. Notice that the name is not exactly on the strait. The name of San Francisco Bay is not on the bay, either. As you see, there are many names here. Each name is as close as possible to the thing it names. If you look carefully, you will have no trouble finding the symbol that goes with each name. To help you, the names of cities are printed in letters very much like those you are reading now. Names of parts of the earth itself, such as bays, straits, and rivers, are printed in slanted letters like this: *San Francisco Bay.*

Almost everything on the earth has a name. Small hills and little streams have names that the people of the neighborhood know and use. Only a few of these names can be printed on a map. There would not be room for all of them.

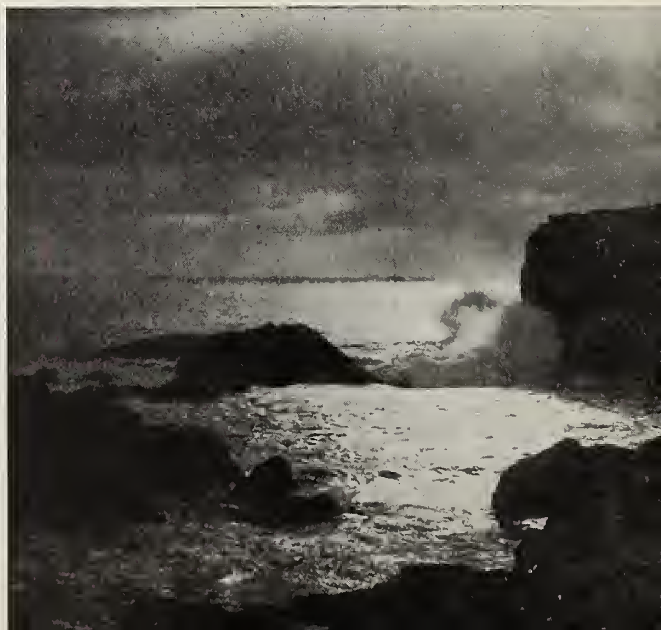
You have seen that water extending into the land is called a bay. Land extending into the water is called a cape. A cape may be just a place where the coast line turns a corner, or it may be a sharp point reaching out from the land. Along the coast shown on your map, capes are usually called points. The name of the one in the picture below is Point Lobos. It is west of San Francisco, the point of land that extends farthest into the ocean. Capes are not always high, rocky cliffs like this. They may slope down to the water like the points of land in the upper right-hand picture you saw on page 205, or they may be low and sandy.

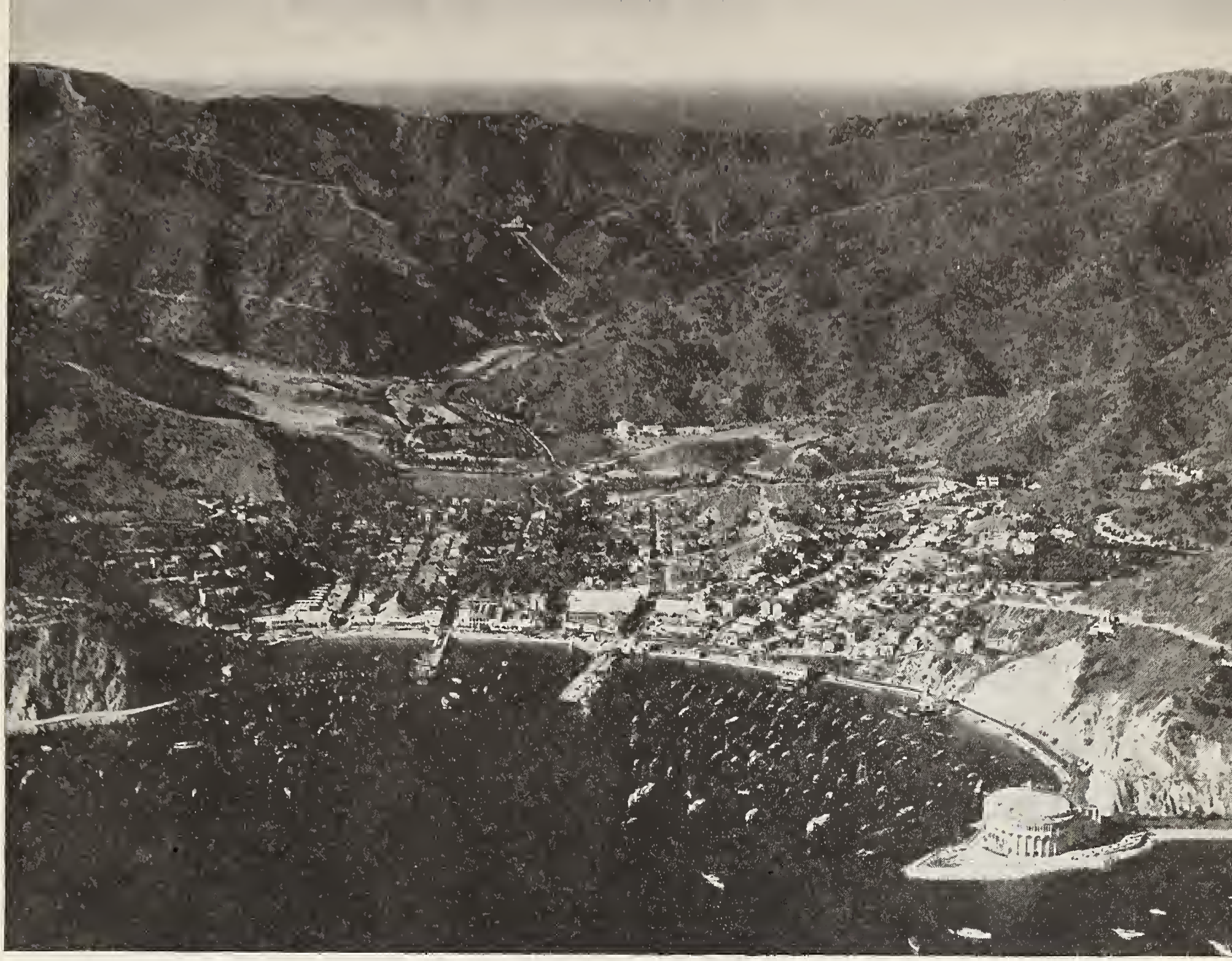
In the bottom picture on page 201 you saw rocks standing up above the water, with water all around them. You may think of them as tiny islands, though they are so small that people would usually not call them islands. There are little islands in the picture on page 186, too. Islands may be as small as these, or they may be so large that it would take a ship several days to go around them. They are all islands if they are pieces of land with water all the way around them.

The islands you have seen so far are too small to show on the map. Here is one you can find. Look for Catalina Island southwest of Los Angeles. Then

A wave is breaking against the tip of a rocky cape.

Ewing Galloway





Paul's Photos

Islands may have high, steep hills like this one, or they may be low and flat. They may be large or small.

find Avalon on the island. The picture above tells you how it looks. You are looking down on the little town from an airplane that is flying low. The town is on the shore of a small bay, used as a harbor. There are steep hills around the town, rising to a height of between 1000 and 2000 feet. Your plane is just high enough to let you see over the hills. You can see the ocean beyond them.

You cannot tell from this picture that you are looking at an island. The island is too large for that. You could find out that it is an island by traveling around it, and that is just the way someone did find out, long ago. You do not have to travel around it because you have a map showing the entire island.

The Scale of Miles

There is something else you can tell from the map that you cannot tell from the picture of Catalina Island. You can read distances from the map. You can tell how long the island is and how far it is from the shore of the mainland.

Look at the bottom of the map for the word "Scale." Beneath it is a line divided into numbered sections. A scale is something for measuring. The line on your map stands for 50 miles. It is divided into parts that stand for 5, 10, 20, 30, and 40 miles. If you lay the edge of a piece of paper along the scale, you can mark the same divisions on the paper. Work very carefully, to make sure you have each line in exactly the right place. Now you have your own scale, which you can pick up and lay down on the map wherever you wish.

Measure the length of Catalina Island with your scale. You can see that measuring from northwest to southeast will give you the longest possible distance. You find that the island is 20 miles long. Now measure the shortest distance between Catalina and the mainland. You find that this distance, too, is 20 miles.

Now measure the distance from Los Angeles to Mount San Antonio. You will find that it is about 40 miles. You cannot tell exactly to the mile how far it is. On this map cities are shown by dots, as on the earlier maps you used. A dot is the symbol most often used for a city. It shows where the center of a city is, but it does not show how far the city extends. Los Angeles is a very large city. The map maker put a large dot on the map to tell you that the city is large. The dot tells you that the city has many people, but not how much land it covers. If you wish to see how large the city really is, turn back to the map on page 180. The symbol there shows the size.

Now suppose you want to measure the distance from Santa Barbara to Los Angeles. You find that you have to lay down your scale twice, for the distance between Santa Barbara and Los Angeles is more than 50 miles. You have to measure 50 miles toward Los Angeles. Then, starting from the end of the scale, you need to measure 20 miles more. You have added 20 miles to 50 miles. The distance from Santa Barbara to Los Angeles is about 70 miles.

Perhaps you would like to know how far San Francisco is from Los Angeles. This time the scale of miles is not easy to use. You have to lay it down seven times. Multiplying 7 times 50, you get 350. San Francisco is about 350 miles from Los Angeles. There is an easier way to measure this distance, however.

Beneath the scale on the map you will find the words "50 miles to one inch." It means that one inch on the map stands for 50 miles on the earth. Now you can measure with your own ruler from San Francisco to Los Angeles. You will find that it measures about 7 inches on your ruler. Again you multiply 7 by 50, and the answer is 350.

THIS IS YOUR COUNTRY

If you would like to see your whole country at once, just turn to pages 210–211. Your whole country is there, spread out before you. Of course, you have to use your imagination to see it as it really is. What you see is a symbol of your country. It is made up of many smaller symbols.

You know nearly all the symbols you see on the map. They mean something more to you now than just lines and colors on the pages of your book. When you look at the symbols, you should be able to see beyond them to the land itself.

A New Scale and New Symbols

One of the first things you will want to do is find out where you are. You flew north along the west coast of the United States from Los Angeles to Vancouver. If you look at the map of your country, you will find Vancouver on the southwestern coast.

You will notice that the map of Canada on pages 210-211 is like the map on page 185 in one way. The colours are the same. But you will find everything is much smaller on the Canada map.

Turn to page 185 and measure the distance from Los Angeles to Santa Barbara. Now turn to pages 210-211 and measure the distance from Vancouver to Banff. These distances look the same, but Santa Barbara is only 70 miles from Los Angeles, while Banff is 400 miles from Vancouver.

On the map of Canada one inch stands for 284 miles. On the map on page 185 one inch stands for 50 miles. This means that anything shown on the map on page 185 will be almost six times as large as the same thing on the Canada map.

We say that the map on pages 210-211 is drawn on a smaller scale than the map on page 185. There is not room for much detail on a small-scale map, but we often need to use such maps. We can compare places on them. We can see our country as a whole, all at one glance. We can see where highlands and lowlands are and where great rivers flow.

As you look at your country on the map, you will see its name, CANADA, printed across it. Near the southern edge of the map you find the name, UNITED STATES. Near the northwestern edge is the name, ALASKA. The United States is south of us, and Alaska, which belongs to the United States, is our northwestern neighbor. Only part of these countries is shown.

Canada extends as far south as the broken line, like this --—··-—·-·—. This symbol stands for a boundary line. Our country ends at the boundary line and the United States begins. In the east our country extends farther south. It reaches to the large lakes you see on the map—Lake Superior, Lake Huron, Lake Erie, and Lake Ontario— and the St. Lawrence River.

On the northeast you will see still another boundary line. It separates Canada and Labrador. No boundary line is needed at the far east or the far west, for our country extends from coast to coast.

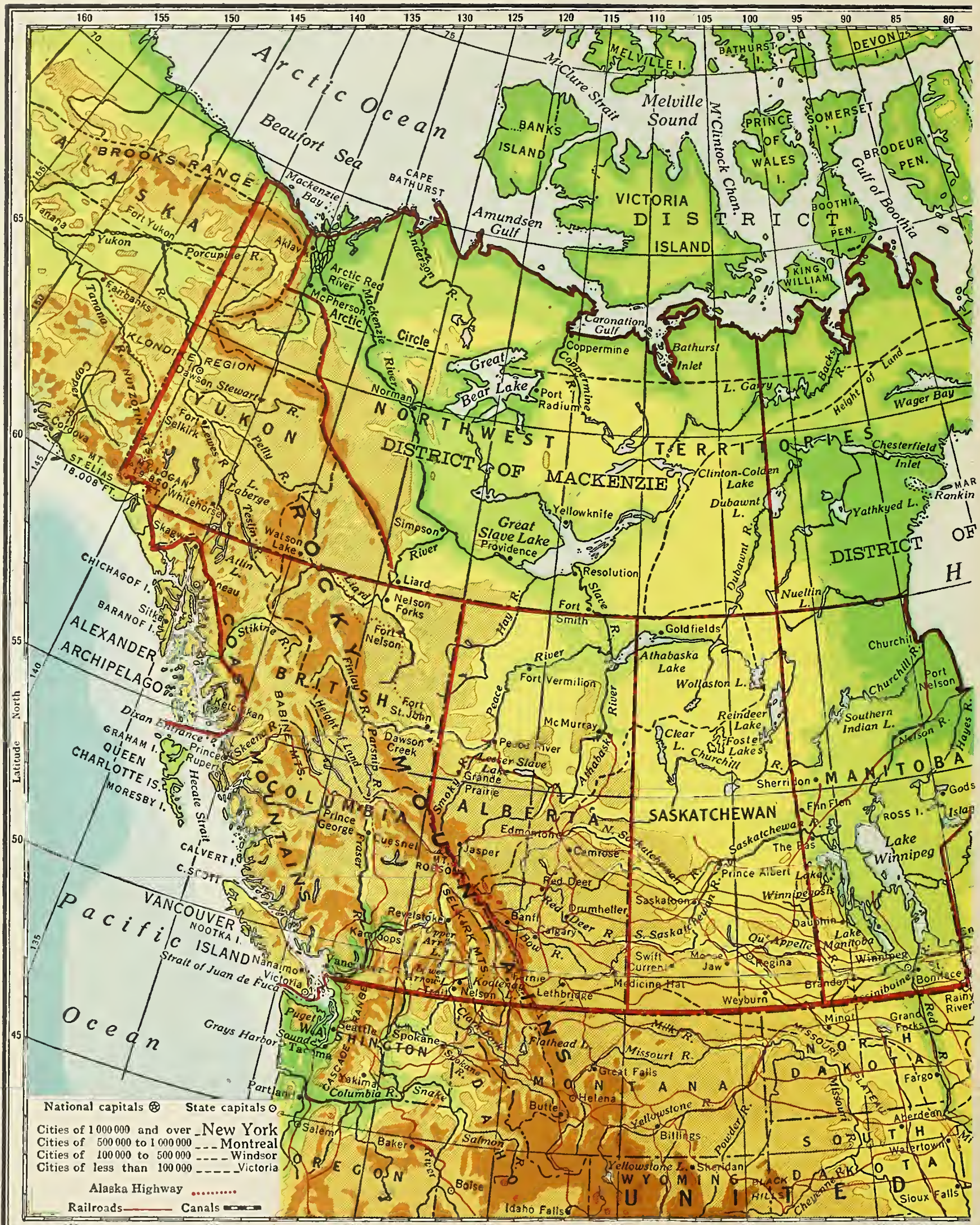
On the east and west two oceans are the boundaries. You have seen them both in your travels over the earth earlier in this book. On the southeastern coast of Canada there is another large body of water. It is part of the ocean, but it has a special name. It is called the Gulf of St. Lawrence. The name "gulf" is sometimes used for a body of water that is larger than most bays and has a wide opening on the ocean.

Can you find the Bay of Fundy on your map? East of it you will see a strip of land that extends a long way into the water between the Bay of Fundy and the Atlantic Ocean. This is called a "peninsula." The most important peninsula in Canada is the one you have just found. Its name is Nova Scotia. There is another peninsula between the St. Lawrence River and Chaleur Bay. This is the Gaspé Peninsula. Can you find some other peninsulas on the map?

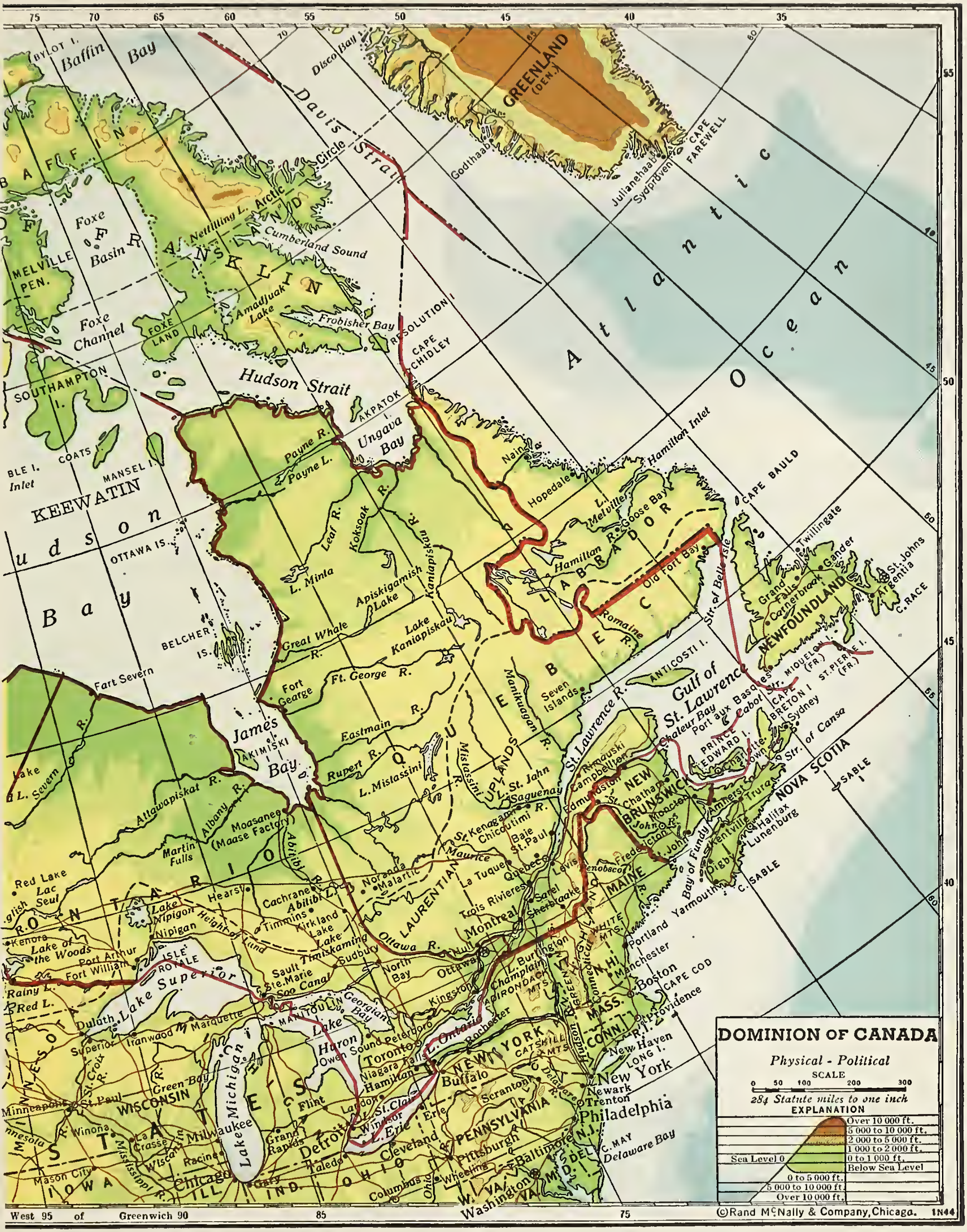
The word "peninsula" is most often used for large pieces of land extending into the water. Of course, no one can take a picture of a whole peninsula as large as the peninsula of Nova Scotia. To see what a peninsula is like, you need to look at a very small one. Turn back to the bottom picture on page 201 and find the little rocky point extending into the water to the left of the house. It is a tiny peninsula. Probably you can find other pictures of small peninsulas.

Our Country's Highlands

As you look at the map of the whole of Canada, you see symbols you know. You should be able to see at a glance that the western half of the country is much higher than the eastern half. The eastern half has far more land shown in two shades of green. Only a few small spots of it are colored light brown. There is no dark brown or red at all in the eastern part of the country.



This is a map of your country.



DOMINION OF CANADA

Physical - Political

Both of these pictures show mountain peaks and valleys that are more than 10,000 feet above sea level.

Burton Holmes from Ewing Galloway

There are five very large lakes in the east. You can find their names on the map. Together they are called the Great Lakes. One of these lakes, Lake Michigan, is in the United States.

You have seen what map symbols stand for in one small part of a country. You have seen many pictures of real places and compared them with symbols on the maps. Now perhaps you would like to pick out symbols on the map of the whole of Canada and see how the places look.

We shall have to play another game of pretend. Our imaginary plane that can fly half as high as the moon is still waiting for us in Vancouver. Let's get in again and take off for a look at our country. We shall need a magic telescope, too. When we look through a real telescope, things that are small and far away seem large and close to us. We are going to imagine that our magic telescope makes places marked on the map into real places that we can see.

We might look first at the red spots on the map. Red, we know, stands for land that is more than 10,000 feet above sea level. So far, we have seen mountains whenever we have seen land as high as this. Should we always think of mountains when we see red on the map?

First look to the southwest and find the Fraser River on the map of your country. Follow it to the place where it begins in the mountains. You will see a red spot south of this place. Turn your magic telescope on this red spot. The top picture on this page shows the mountain you would see. It is Mount Robson, and it is 13,608 feet high.

There are not many large areas of red in our country. If you look south of Mount Robson, you will find one of these large red areas. The scene you see in the second picture on this page shows what the country in this area is like. In the picture, the mountains are more than 14,000 feet high. The valley, too, is above 10,000 feet.

Wherever you have seen red on the map, you have found it standing for mountains. When you saw only a small red spot, you found a lone mountain peak rising high above its neighbors. Where the red area is larger, you saw many mountain peaks rising above the rest of the land. Even the valleys are more than 10,000 feet above sea level.

As you saw in the pictures, high mountain lands are not always bare and snow-covered. There are trees and grassy slopes in the high mountain valleys. Some people visit the mountains to enjoy the scenery. Perhaps they only drive along mountain roads, or they may spend long vacations in the mountains. Even in the winter many people go to the mountains for skiing and other winter sports.

On page 193 you saw a picture of sheep grazing on a high pasture. The second picture on page 212 also shows mountain meadows that are used for pasture. Usually, however, herdsmen bring the sheep or cattle to such pasture only for the summer. They take the animals down to lower land for the winter. Very few people live on the highest land all the year round.

Ewing Galloway

The mountain in this picture is brown on the map.

When you look at the dark brown area, you will find a different story. Here, too, you will see mountains, like the Rocky Mountains and the Selkirk Mountains. But you will also see level land. In the south this land can be farmed. Some of the level land is not rich enough to farm, so it is used for pasture land for cattle and sheep. If you turn your magic telescope to the southern part of the dark brown area, you will see a scene like that in the picture at the bottom of the page. Scattered through the mountains there are also many mining and lumbering towns. People live in these towns all the year round. In our country there are no large cities in the area that is marked dark brown, but in the United States there are many large cities in the dark brown area. There is a picture of one at the bottom of page 214.

Not much of our country is colored dark brown. There is no dark brown at all in the eastern half of the country.

Like the mountain above, this hilly grazing land also is between 5000 and 10,000 feet above sea level.

Ewing Galloway

Ewing Galloway

This farm land, too, is dark brown on the map.

That does not mean that there are no mountains. It means that none of the mountains there are 5000 feet high.

Land between 5000 and 10,000 feet above sea level is different in different places. Mountains, valleys, and plains may all be found in the dark brown area.

Although people live in the southern part of the dark brown area, few of them live on the steep mountain slopes. You have seen that this is true of mountains more than 10,000 feet high. It is also true of the lower mountains. In the first picture on this page, the farmer and his boys are working in a level field. The steep mountain slopes are not farmed.

Very few people live in the northern part of the dark brown area. You will find level land in the north too, but it cannot be farmed. The winter there is long and cold, and the summer is short and cool. The people who live there earn a living by hunting and trapping.

Down to the Lowlands

As you look at the dark brown area on the map, you will see some strips of light brown cutting into it. Most of these are river valleys. If you would like to see

The city is on level land, but it is between 5000 and 10,000 feet high. The mountains beyond are still higher.

O. Roach, Courtesy Denver Chamber of Commerce

Ewing Galloway Photos

The land in both these pictures is between 2000 and 5000 feet above sea level and is light brown on the map.

one of these valleys that cut down through the dark brown into the light brown, find the Fraser River. Follow it up into the mountains. At the left above there is a picture of a river in the mountains. As you know, the black line on your map stands for the river. The land you see in the picture is less than 5000 feet high and is light brown on the map. On both sides, however, mountains rise to more than 5000 feet.

In this eastern part of the country find the words "Appalachian Highlands." All of these mountains are less than 5000 feet high. Only a few of them are between 2000 and 5000 feet in height. Find them. They are marked in light brown on the map.

If you look at the Appalachian Mountains through your magic telesclope, they will look like the ones in the lower picture on the right. You can see that they are very different from the mountains in western Canada. Trees grow right to the top, and the snow on the peaks melts away in the summer. All the land you see, valley and mountain top, is in the light brown area on the map.

Land between 2000 and 5000 feet high is not always in the mountains. In fact, some of it is quite flat. Let us go west again to the broad band of light brown, east of the Rocky Mountains. Near the mountains you will see long rolling hills. At the eastern edge of the band you will see wide, flat plains. The upper right-hand picture shows what the country looks like. There are no forests. The country is either rolling pasture land or flat level wheat fields.

Ewing Galloway

These mountains, too, are shown in light brown.

You have seen many different kinds of land in the areas colored light brown. It is hard to believe that the river valley in the mountains, and the wide flat plains

Ewing Galloway

Courtesy National Film Board of Canada

Both pictures were taken in areas colored yellow on the map, showing land between 1000 and 2000 feet high. The picture on the left was taken near Lake Ontario, the one on the right was taken in the mining district.

are the same height above sea level as the highest mountains in the east.

When you come to the areas colored yellow, you again find great differences in the way the country looks. In the dark brown of the Rocky Mountains you will see many thin yellow strips. These are river valleys. Through the magic telescope they look very low and flat. Many people live in these river valleys. They grow fruit and vegetables in the rich soil.

The largest yellow area on the map begins in the northwest near Great Bear Lake. It continues north of the Great Lakes and extends, like a shield, to the northeast coast. Because of its shape it is called the "Canadian Shield." It is made up of old, strong rocks. Most of the country in the Canadian Shield is not suitable for farming but is very rich in minerals. Many people earn their living by mining.

Do you see the name "Laurentian Uplands" on the eastern part of the map? These are low mountains made up of very hard rocks, covered with pine and spruce forests, or muskeg. If you turn your magic telescope on this country, you will see very few people. In most places the land is not good for farming. Often the soil is so thin that the rocks show through.

The Lowlands

Move to the next layer on your map, the light green. The largest light green area on the map of Canada is around Lake Winnipeg. Many people live in the southern part of this area. The land is very flat, and the soil is rich. You see many farming towns but few cities.

Most of the land around the Great Lakes is light green too. The Great Lakes are so large that you cannot see across them. When you look at the picture at the top of page 217, you might think you were looking at the ocean. It is not the ocean, however, and the surface of the water is not at sea level. You are looking at Lake Superior from Port Arthur. The Great Lakes are all between 500 and 1000 feet above sea level. They are colored blue on the map because they are water. If they were land, they would be colored light green.

Many people live in the area that is light green. If you traveled over the area around the lakes, you would find many cities, towns, and villages. Besides city people, many farmers live here. The light green area around Lake Erie and Lake Ontario is good for farming. If you look at this country through your magic telescope, you will see a scene like the picture at the bottom of this page. The land is not flat, but the hills are low.

You find light green, also, around the edges of the highland areas. Can you guess what it means here? When land slopes down from highland to lowland, the slopes cut across all layers of color. If you made the model suggested on page 200, you know how this happens. You can see it in the drawing at the top of page 185, too.

Many people believe that the dark green on the map stands for land that is low and flat. Sometimes it does, but you will find that many different kinds of land are colored dark green. In the western half of the country there is a very small area. If you look at the Fraser River, you will notice that part of the river valley near the mouth is dark green. The country in this part of the river valley is low and flat. The land is very fertile, and there are many farms here.

Find Hudson Bay on your map of Canada. The largest area of dark green in Canada is around Hudson Bay. The high lands of the Canadian Shield slope gently down toward the water and form a wide coastal lowland around the bay. Because it is so far north, most of the year the land is covered with ice and snow. This kind of country is called "tundra." There is a very short summer during which grass and wild flowers grow. There are no farms up here. The few people who live in this part of the country earn their living by hunting and fishing. This country looks like the picture at the middle right of page 218.

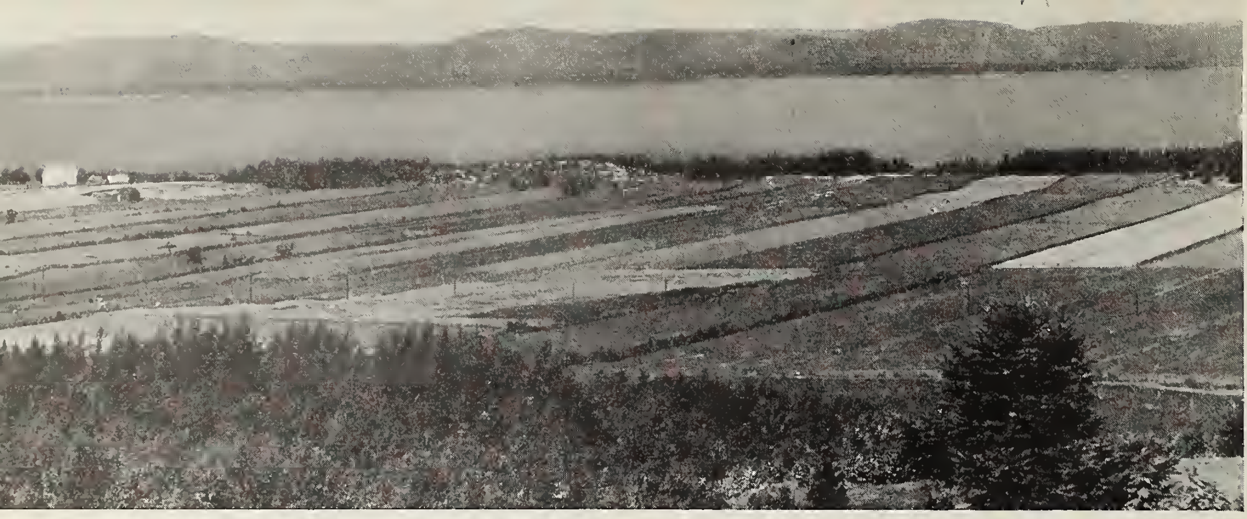
Courtesy Port Arthur Chamber of Commerce

This Lake Superior shore line is 615 feet above sea level. The picture was taken at Port Arthur.

Now look at the eastern part of Canada. You will see a narrow strip of dark

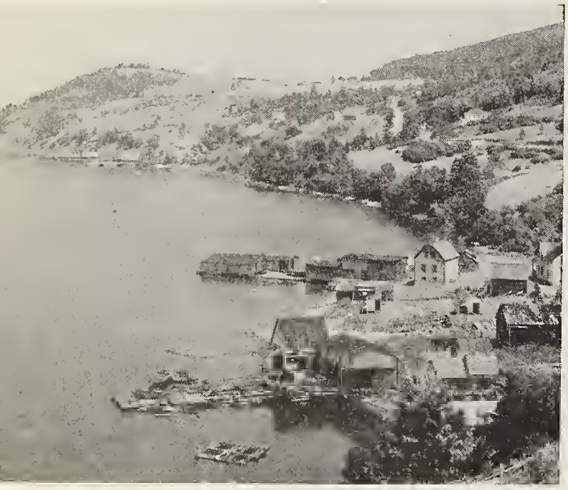
Hills like these cover much of the area that is light green on the map of your country on pages 210–211.

Century Photos



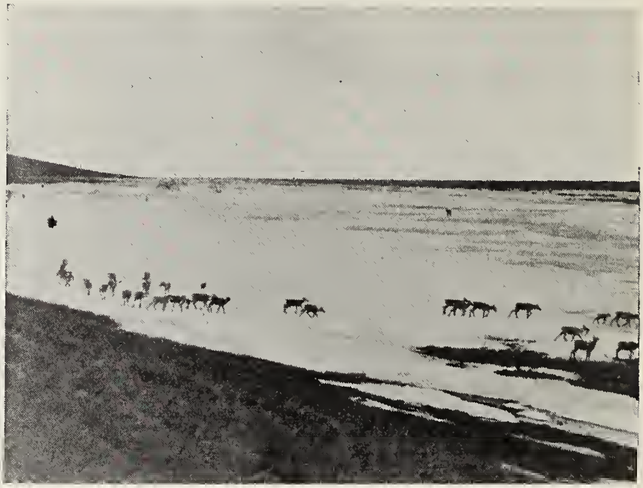
Courtesy National Film Board of Canada

Farms along the St. Lawrence were laid out long ago when each farmer used the river for transportation.



Philip Gendreau, N. Y.

A fishing village on the coast of Nova Scotia.

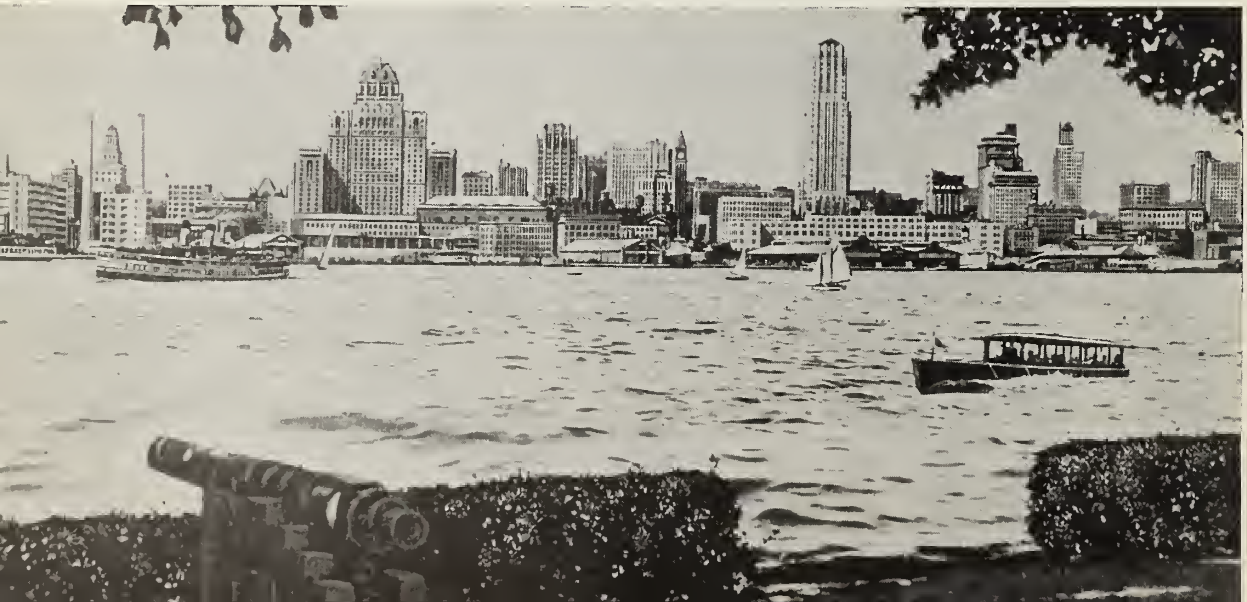


Ordway from Black Star

Caribou traveling northward over the arctic tundra.

Toronto has one of the finest harbors on the Great Lakes. The four pictures on this page were all taken on land that is shown in dark green on the map. Do you see any place where the land is not flat and level?

Courtesy Toronto Convention and Tourist Association, Inc.



Courtesy National Film Board of Canada

The parliament buildings at Ottawa are on land that is about 290 feet above sea level.

green along the St. Lawrence and Ottawa rivers and around the shore of Lake Ontario. The water has worn down the rocks to form a narrow coastal plain. Many people live in this area. As it is quite level and the soil is rich, it is good farming country. If you look through your magic telescope at the eastern part of the St. Lawrence Valley, it will look like the picture at the top of page 218. The long narrow strips are farms. They were laid out long ago when each farmer used the river for transportation.

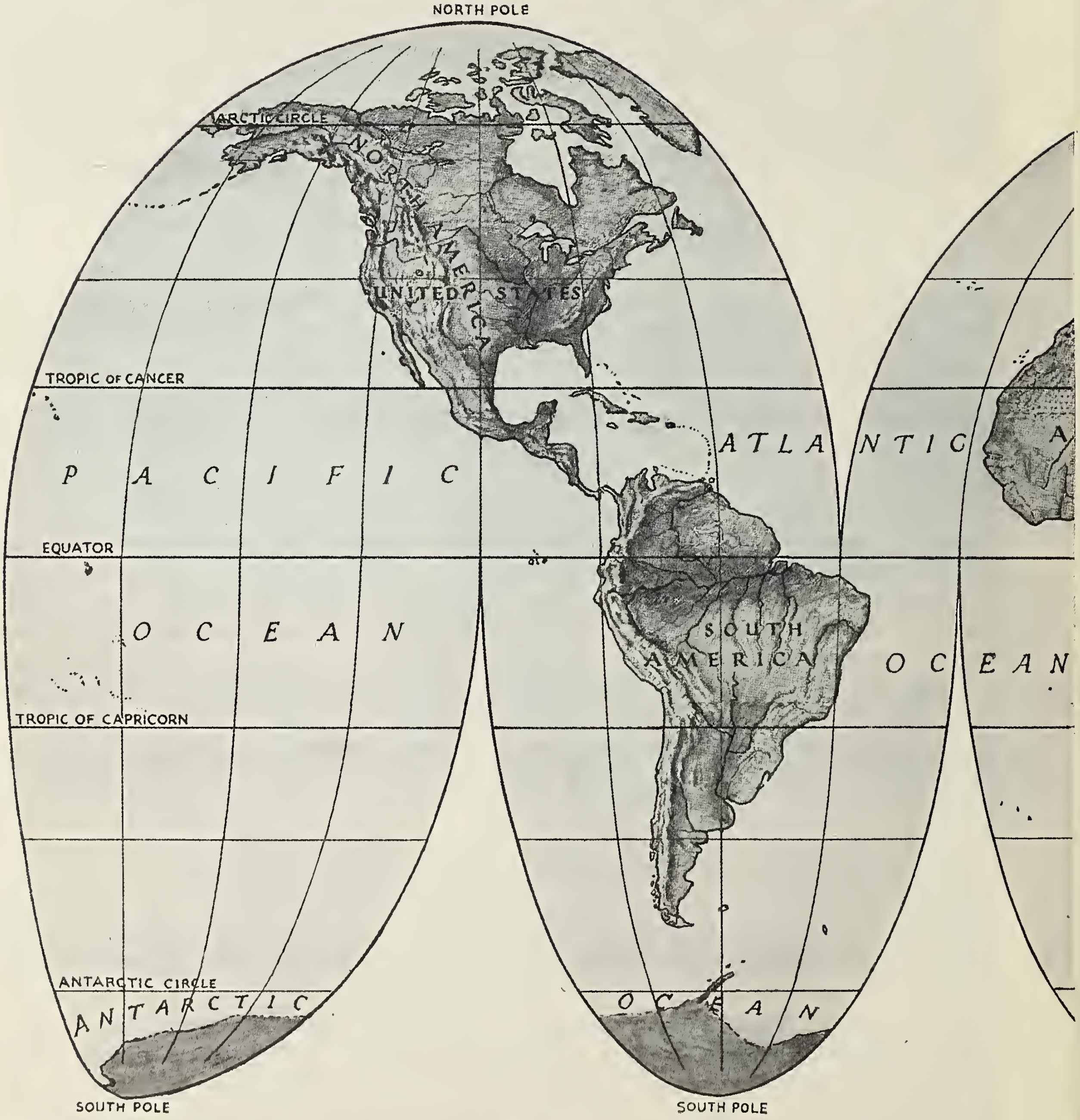
There are many cities in this area, including Montreal and Toronto, the two largest cities in Canada. Ottawa, the capital of Canada, is also in this area. If you look at the city of Ottawa through your magic telescope, you will see the parliament buildings pictured above.

You will have noticed that the country on the west coast of the Bay of Fundy is colored dark green. So is much of the peninsula of Nova Scotia. If you look at the Nova Scotia coast through your magic telescope, it will look like the picture at the middle left of page 218. The country is rocky, and in most sections the soil is thin. However, there are several farming districts. Most of the people earn their living by farming, fishing, lumbering, or mining.

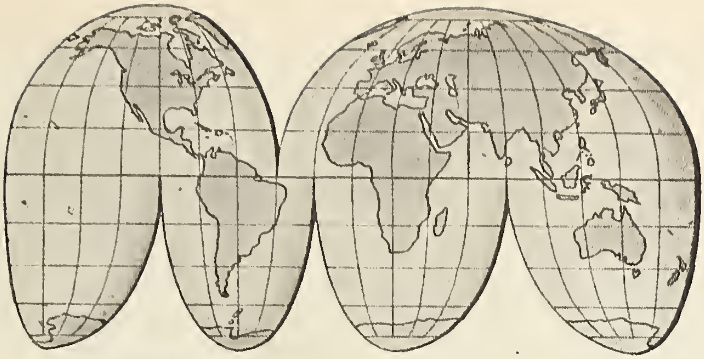
YOUR COUNTRY AND THE WORLD

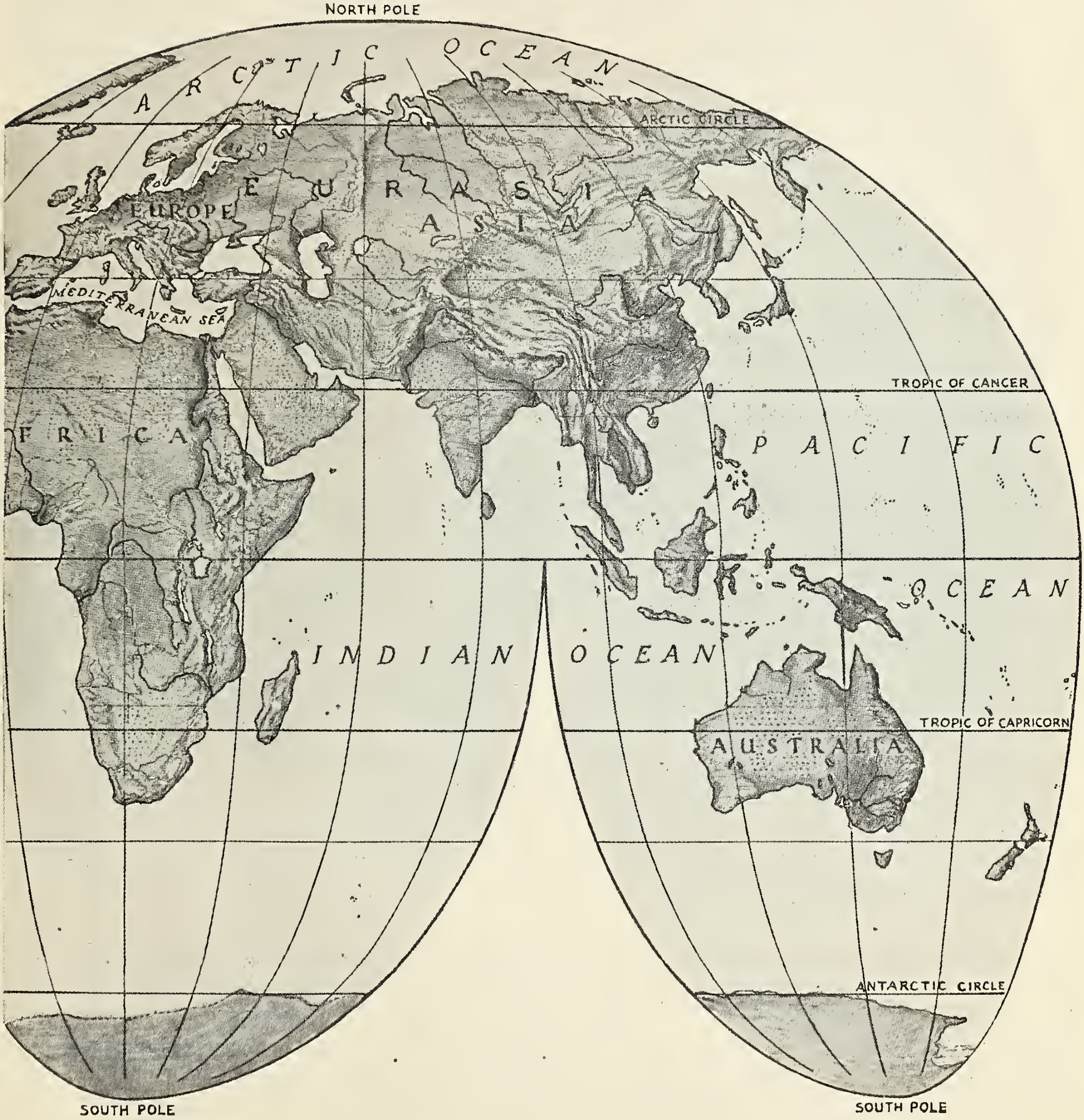
Now you are almost ready to end your journeys. Before you go home, would you like to take one backward look at all the places you have seen? To see all these places, you need a new kind of map. You need a map that shows you the whole earth at once.

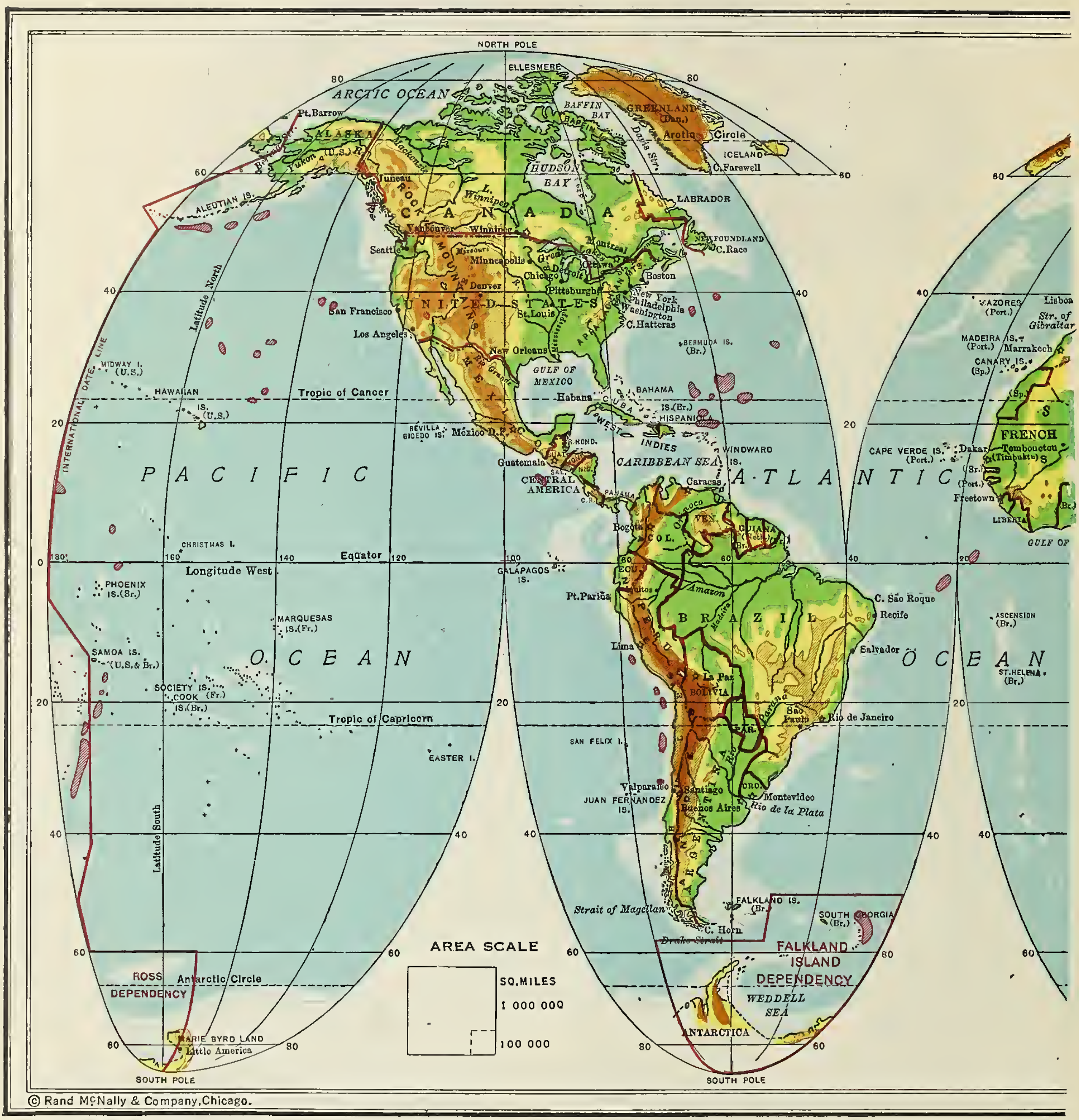
The maps you used earlier were pictures of the globe and showed half the earth. You might use two globe pictures side by side, but map makers have several better ways. When you turn this page, you will see one of the very best ways of showing the whole earth.



This is one way to show the whole earth at once on a map.




NORTH POLE
ARCTIC OCEAN
ARCTIC CIRCLE
EURASIA
EUROPE
ASIA
MEDITERRANEAN SEA
TROPIC OF CANCER
FRICA
PACIFIC
OCEAN
INDIAN OCEAN
TROPIC OF CAPRICORN
AUSTRALIA
ANTARCTIC CIRCLE
SOUTH POLE
SOUTH POLE

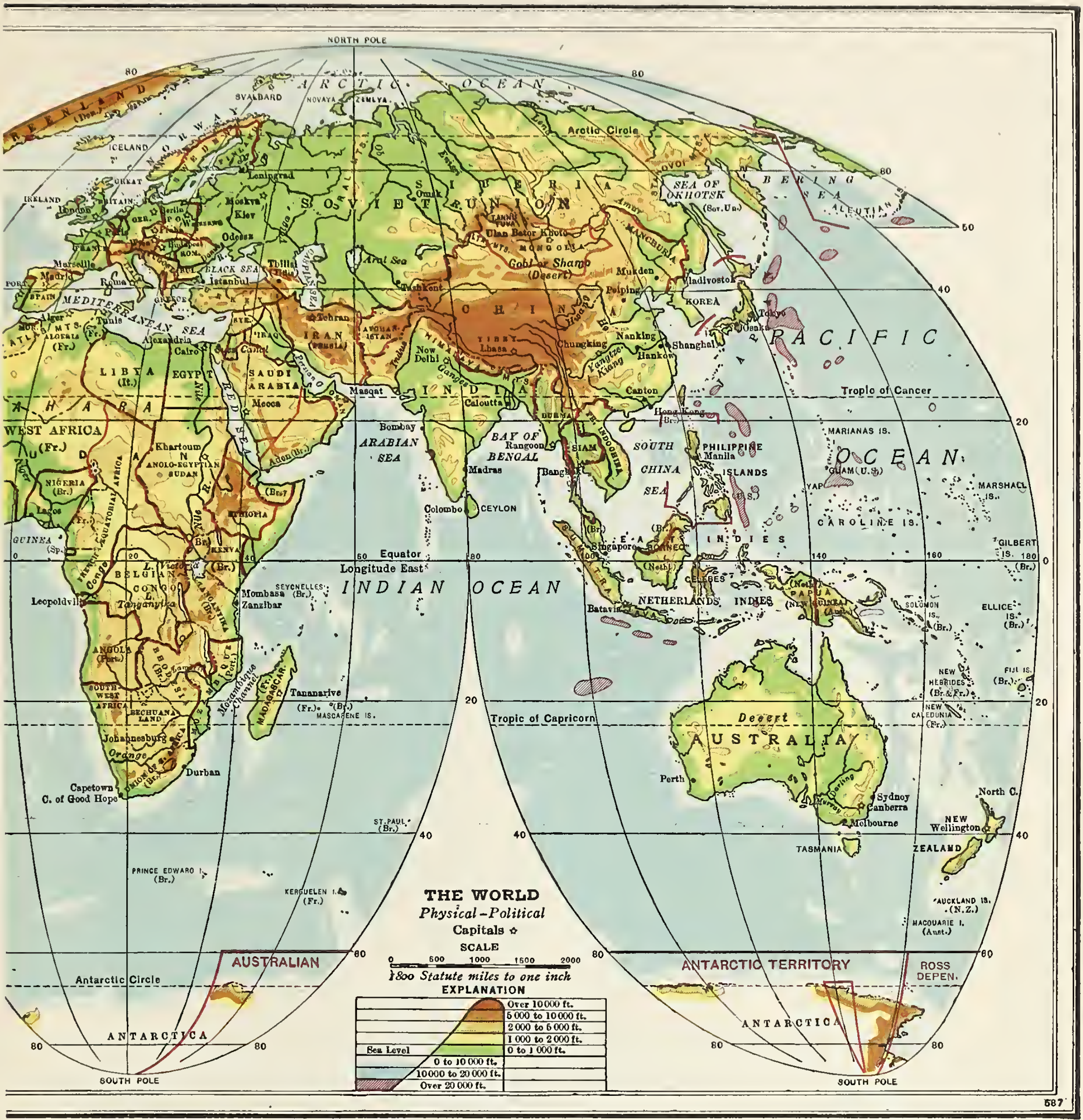


© Rand McNally & Company,Chicago.

This map of the world shows the height of land in color.

Look first at the upper left-hand corner of page 220. There you see a tiny picture of a globe, like the ones you have been using.

Now you will need to use your imagination again, just as the map maker did. The map maker imagined he could peel the globe as you might peel an orange. The second little picture on page 220 shows how he cuts it. One cut runs from pole to pole. The other goes only part way. In the little picture at the top of page 221 he has taken the outside of the globe and flattened it out. It is now



Courtesy of University of Chicago Press

a map of the world. You see the same thing on a much larger scale on the lower part of pages 220–221.

Now look at the colored map above. Here you have a grown-up map of the world. It was not made easy for you to read. You know most of the symbols, but there are probably some that you do not know. You will need to study geography much longer before you can read everything this map has to tell you.

Can you pick out all the continents by their shape? You should be able to do that. If you do not recognize them, compare them with the map on pages 220–221 and with the maps you have used earlier. You do not need to pay attention to colors or any other symbols. Just look at the shape of the continents until you are sure you know each one. Size does not matter. You know that a map may be drawn on a large scale or a small scale. It is only the shape that you need to know.

On the colored world map you can find all the places you have visited. You will find the names of the Amazon River, the Congo River, Egypt, Greece, France, Norway, China, Java, and Australia. You will also find the names of some of the cities you have seen.

This map is drawn on a very small scale. It has to be, to bring the whole world down to the size of two pages in your book. There is not enough room to show symbols for everything you have seen or to name all the places where you have been. You can find all the places, though, if you learn to compare maps.

Look at the pictures of the globe that show the route you followed. When you come to a place you have visited, turn to the world map. Forget all about differences in size and color. Look for rivers, cities, and coast lines. Find places you can recognize on both maps. Then think about the spot you want to locate. In what direction is it from the places you recognize? With a little practice you can learn to point to the exact spot, even though it is not named on your world map.

You know how your own country looks on a map. On pages 210–211 you saw it spread all the way across a whole opening in your book. You can find it on the world map, too. The name is printed across it, but you should learn to know it by its shape, whether the name is there or not.

Somewhere on the map is a spot that stands for your own community. If you do not know where it is, your teacher will help you find it. Your own town and your own schoolroom are part of the whole wide world.

The world you have seen on the map seems to have an edge at the east and west and north and south. There are breaks in the ocean that ships could never sail across. You know that the real world is not like this. This is the way the map maker imagined it, so that you could see it all at once. He pretended he could peel the map off a globe and flatten it out.

Now imagine you see it curling up again. The gaps pull together. The edges at the east and west curl around until they meet. To the north and south the ragged points fit together at the poles. Your map has become a globe again, the only true symbol of the earth. The earth has no edges and no breaks. From your schoolroom it stretches away east and west and north and south over the whole earth and back again to your own schoolroom.

The earth is your home. You can never know too much about it. Each year you will learn more through your study of geography. You will learn still more by reading books, magazines, and newspapers. You will travel over parts of it and see it for yourself.

Already you know that it is a great round ball. Part of it is land and a larger part is water. Almost everywhere on the land people are living. They are like you in some ways and different in some ways, but they all need the same things you do. Ships sail back and forth across the oceans. Airplanes fly over land and water, halfway around the earth in two or three days. Over the radio you listen to people speaking from every continent, and you hear their words as soon as they speak them. The earth is your home. There are no faraway places, really, or strange people.

Index and Pronouncing Vocabulary

A star (*) indicates a picture.

Key to pronunciation: ā, as in āte; â, as in senâte; ă, as in finăl; ä, as in ärm; ȧ, as in ȧsk; ȧ, as in sofȧ; ē, as in ēve; ȩ̄, as in hȩ̄re; ê, as in crêate; ĕ, as in ĕnd; ĕ, as in novĕl; ẽ, as in cindẽr; ĭ, as in ĭll; ô, as in ôbey; ô, as in lôrd; ŏŏ, as in fŏŏt; ōō as in mōōn; ū, as in pūre; ɴ indicates the nasal tone, as in French, of the preceding vowel.

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For Teacher Reference

Facts are presented in *Geography Around the World* so that they contribute to larger geographic understandings. At fourth-grade level they are necessarily very simple. Below, the principal understandings developed in the text are listed with page references for convenience in quickly tracing topics through the text.

The understandings may be used as centers of interest for review, since reviews are more effective if the materials are reorganized for study a second time. In schools carrying out an activity program, they may serve to suggest and guide units of work.

A star (*) indicates an illustration.

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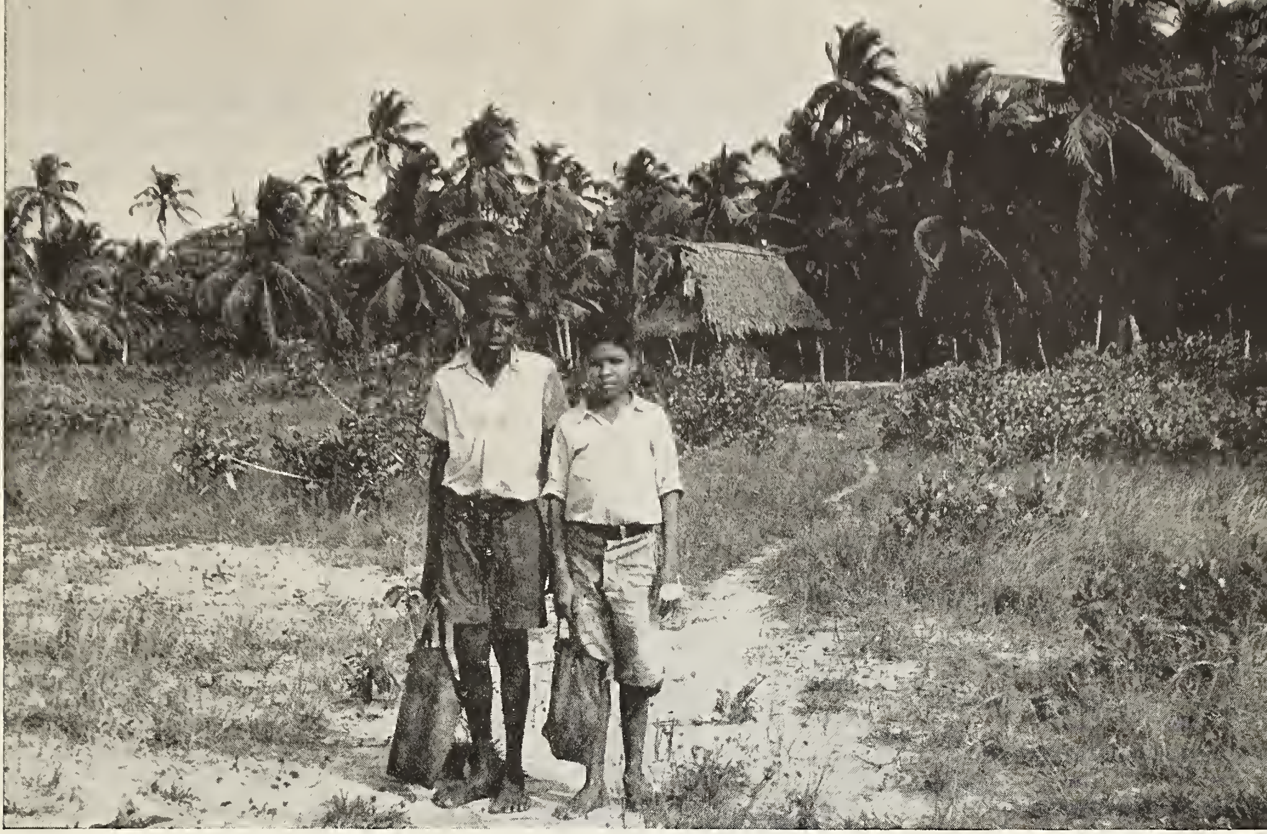


Paul's Photos

These boys are on their way to school near a village on the eastern coast of Honduras in Central America.

HOW WELL DO YOU KNOW YOUR WORLD?

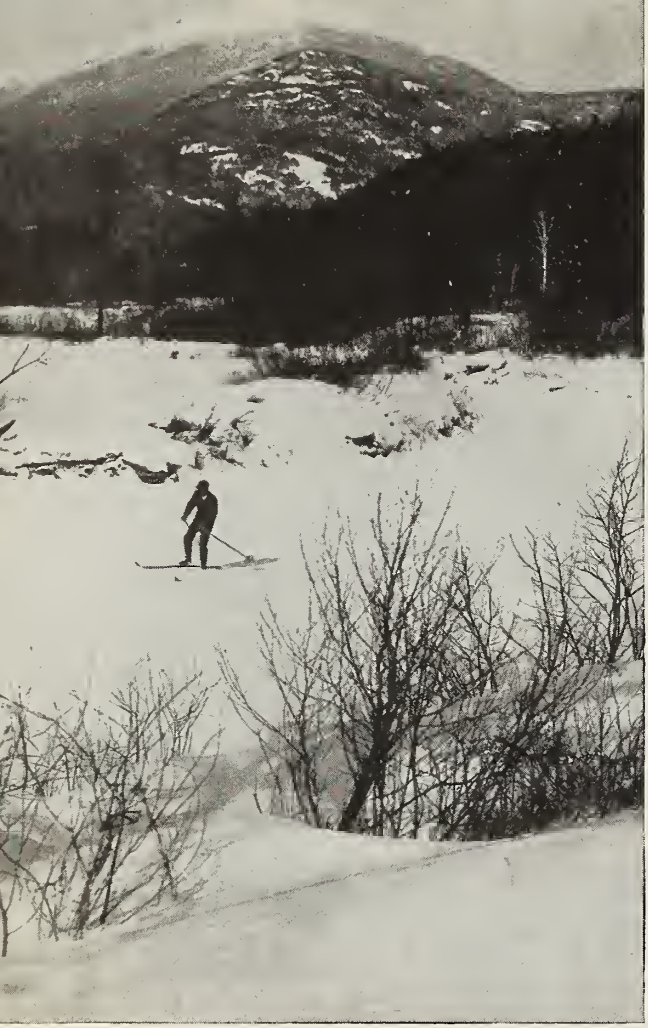
Where was the picture on this page taken? You cannot tell the exact place by looking at the picture, but you know your world well enough to tell the kind of place it is.

Here are some of the things you know. The picture has palm trees. Palm trees do not grow in places that have cold winters. The picture must have been taken in a warm land. The little house also makes you think this picture must have been taken where the weather is always warm. It reminds you of the kind of house you saw in the picture on page 37. It would not be warm enough for people who live where winters are cold.

You saw palm trees in hot wet lands, in hot dry lands, and in Mediterranean lands. Now look at the thick forest beyond the house. You did not see such forests in hot dry lands or in Mediterranean lands. These places do not have enough rain for heavy forests. You guess, then, that the picture was taken in a hot wet land, and you are right.

To find where this picture was taken, turn to the map on pages 222–223. Find a narrow strip of land called Central America. It is just where the continents of North America and South America join. The picture was taken on the eastern side of this strip of land. Central America is between the equator and the Tropic of Cancer. It is near enough to the equator to be a hot wet land.

On the pages that follow you will find 15 pictures. You are to guess what kind of land is shown in each of these pictures. The questions and puzzles will help you to decide what the answers are.



H. Armstrong Roberts

The country near Lake Placid after a snowfall.

Far North or Temperate Winter?

The pictures on these two pages were taken in the eastern part of our country. The first was taken a little more than two hundred miles from New York, in the low mountains east of Lake Ontario. The picture at the left on page 216 of this book was taken near the same place. The picture on page 231 was taken less than fifty miles north of New York.

When you have looked at the pictures, you will be able to choose the right endings for the sentences given in the next column. Copy these sentences, choosing the ending for each one that you think is most likely to be true.

1. The land in the pictures
   - *a.* is made up of low mountains.
   - *b.* looks like a good place for farming.
   - *c.* is low and flat.
   - *d.* is far away from places where many people live.
2. The plants in the pictures are the kind you would expect to find
   - *a.* in a hot wet land.
   - *b.* on the shores of a small island.
   - *c.* in a hot dry land.
   - *d.* in a temperate land.
3. The pictures were probably taken
   - *a.* near the equator.
   - *b.* near the North Pole.
   - *c.* halfway between the equator and the pole.
   - *d.* south of the equator.
4. The people in the pictures came to these places
   - *a.* to cut down trees.
   - *b.* to have a good time.
   - *c.* to hunt polar bears.
   - *d.* to find pasture for reindeer.
5. Of all the places you have seen, the land in the pictures is most like
   - *a.* Szechwan.
   - *b.* Lapland.
   - *c.* Switzerland.
   - *d.* Greece.

There are places like these in many parts of the world. Mountains nearly always attract many visitors, who go there for a good time. Camping, fishing, hunting, and hiking are good mountain sports for summer. In winter people go to the mountains for skiing, tobogganing, and skating on mountain lakes.

The mountains in the pictures are not far from a number of large cities. Every week end, trains and buses bring many people to the mountains. The visitors have a good time for a day or two before they go back to their work in the city.

From the map on pages 220–221, you can see what parts of the world have mountains. You would not find people going to all these mountains for winter sports, however. Some of the mountains are too far away from places where many people live. Some are too high and rough. Near the equator, only the highest peaks have snow. From pictures you have seen, you can guess that people could not have much fun on the tip of a high peak. There are mountains near the poles, but not many people live near by. Then, too, the people who live in cold lands are not looking for a place to play in the snow. They have snow all around them for too many months of the year. They do not think snow is fun.

You are most likely to find people going to the mountains for sports in temperate lands, where the mountain slopes are not too steep. Mountains near large cities have the greatest crowds of visitors. The people who live in the cities most often go to the mountains they can reach easily and quickly.

The people in the picture are dressed warmly enough to enjoy the sparkling winter air near Bear Mountain.

H. Armstrong Roberts

Is This Lapland?

No, the picture below was not taken where you think it was. It was not taken in any place you visited. However, it was taken in a place that is much the same. The following story tells you a little about this land.

The man in the picture is going on a long trip. He is dressed entirely in fur. His boots are made of fur. He wears fur trousers and a loose fur coat called a parka. The parka has a fur hood. Even his underwear is made of fur, with the fur side next his skin. He would not be warm enough if he did not wear all these fur clothes.

When night comes, the man will camp out beside the trail. He has everything he will need packed on a sled. He also has a pair of snowshoes to wear if the snow gets deeper.

When he stops for the night, he finds dead branches for a fire. Most of the branches are small, for trees do not often grow large here. He probably cuts branches for his bed, too.

He has started on his trip in the early part of the winter, so that he can have daylight for traveling. Later the days will grow very short.

Now you should be able to answer some questions about the picture.

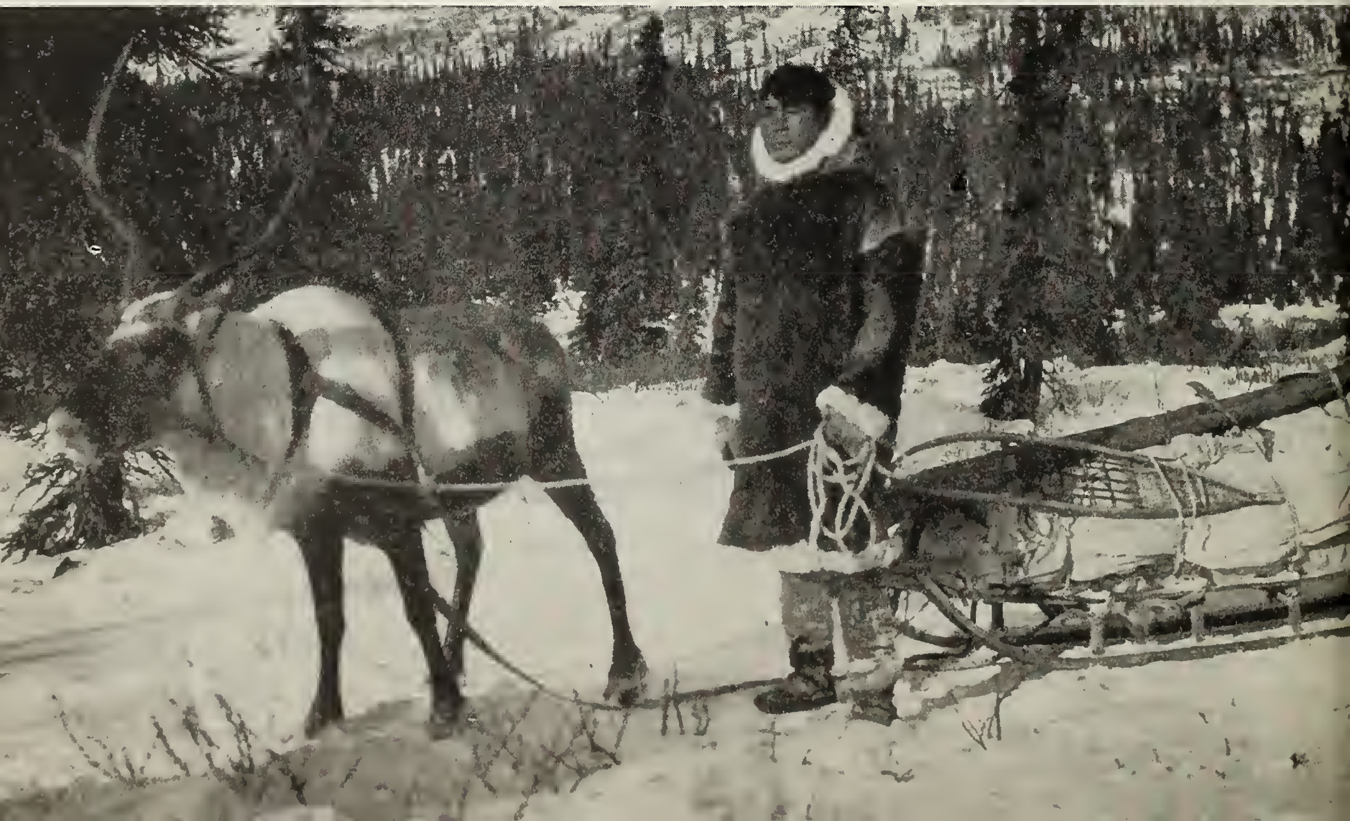
What kind of animal do you see in the picture? How is he being used? Where else did you find people using the same kind of animal? Why did they keep this kind of animal instead of horses or cattle? Do you think the same reasons are good here? Explain why you think so.

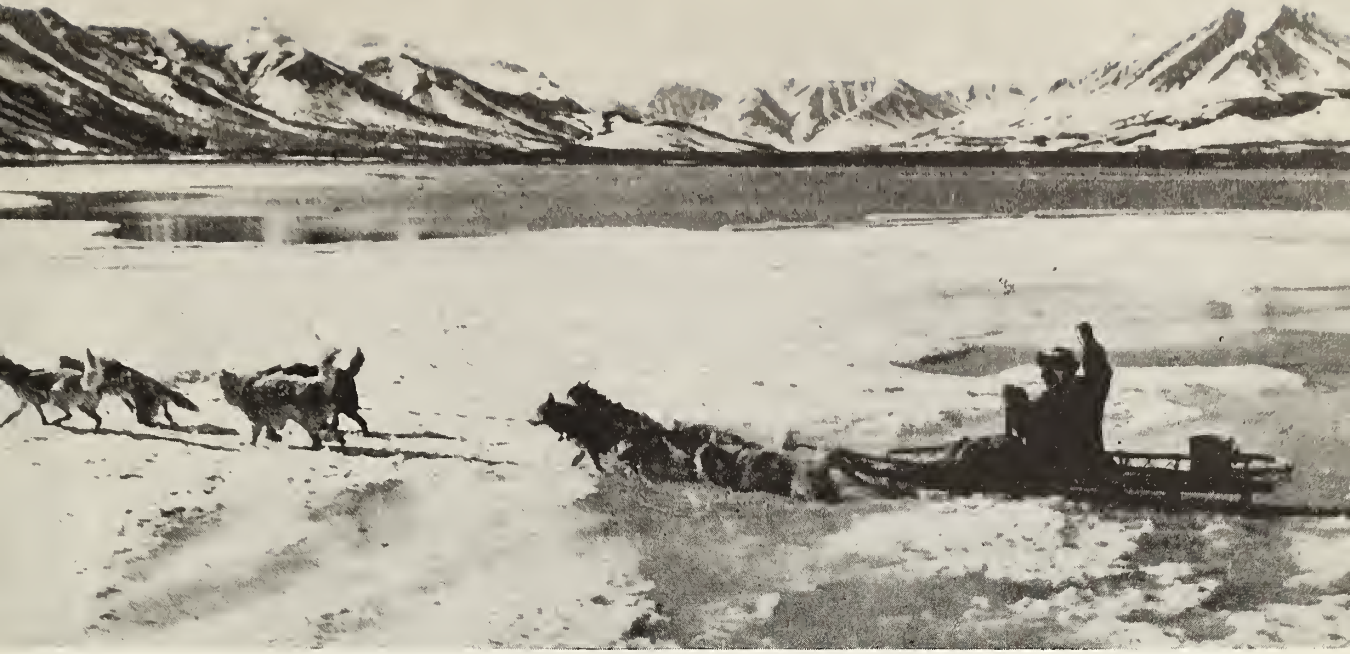
You visited one part of the world which was very much like the land in the picture. Which of the following places do you think it was?

a. Java
b. Lapland
c. Southern France
d. The coast of Norway

The man has packed on a sled the things he will need for a trip across the snow. Notice the small trees.

Ewing Galloway





Paul's Photos

Here is another way of traveling in places where snow and ice cover the ground and there are no roads.

On the map on page 122 you saw that Lapland was near the Arctic Circle. By comparison with this map, find Lapland on the world map on pages 222–223. Find it also on the globe. On either the world map or the globe, run your finger westward along the Arctic Circle. Cross the Atlantic Ocean and the continent of North America. At the western side of North America you come to a peninsula called Alaska. That is where the picture was taken. The man in the picture is an Eskimo. You read about Eskimos on pages 135–136.

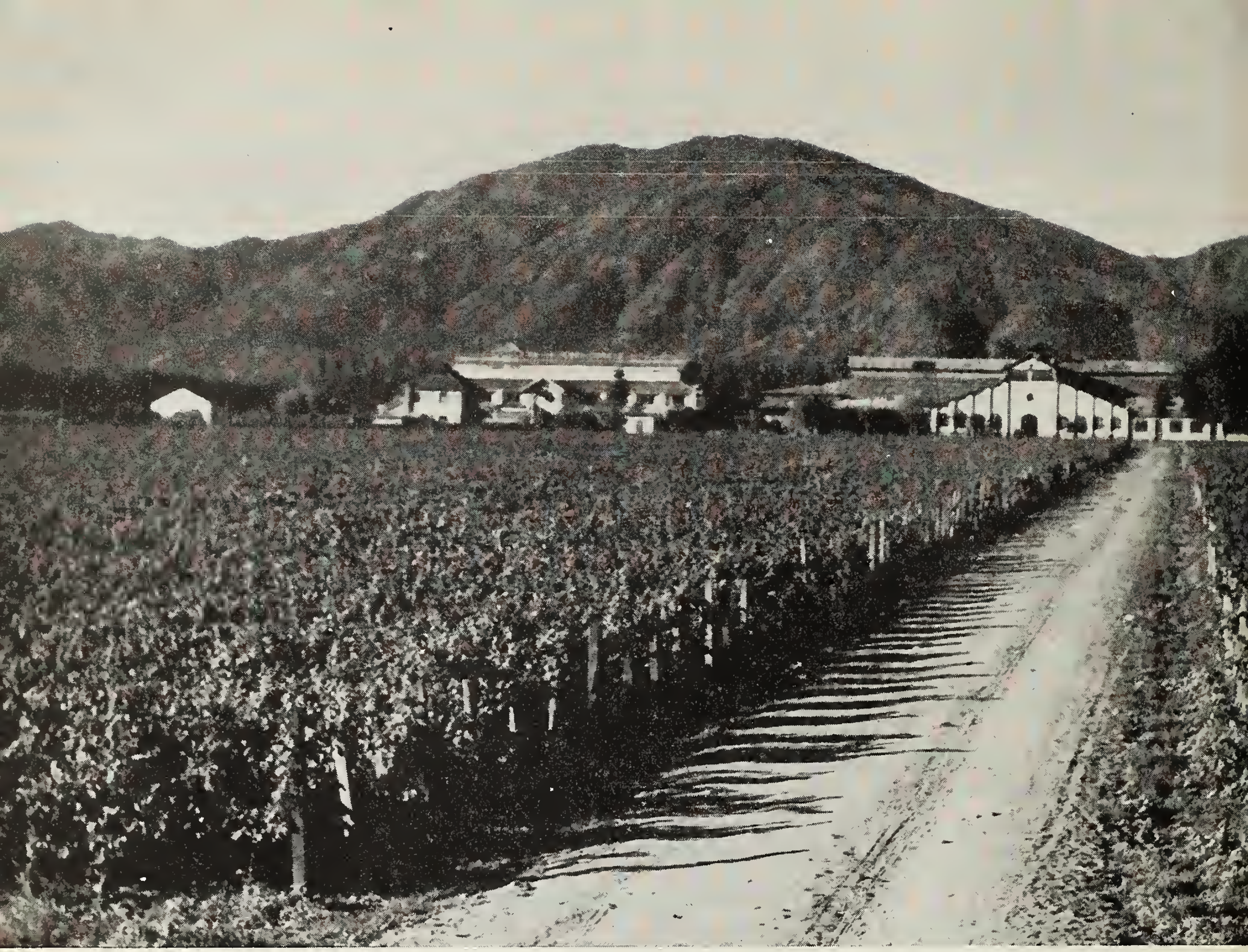
If you were to fly from Lapland to Alaska, the shortest way would take you almost across the North Pole. You see on the globe that the North Pole is near the center of an ocean. There is a circle of land nearly all the way around it.

In all the lands that surround the North Pole you would find a good many things that are alike. Of course, these lands are all part of the Far North. In summer you could see the midnight sun from any part that is north of the Arctic Circle. In the middle of winter there are days on which the sun does not rise. All these lands have long, cold winters. Where trees grow at all, they are usually small evergreens.

In all the lands around the Arctic Ocean you would find people who wear fur clothes. They do not all wear the same styles, as you can see by comparing the picture on the opposite page with the one on page 134. The far northern lands have a few cities. In the cities people usually dress much as you do, but in winter most of them wear fur coats.

In many of the lands around the Arctic Ocean, people keep reindeer. Those who do not keep reindeer usually travel as you see in the picture above, taken in Alaska. You are well acquainted with the kind of animal pulling the sled.

The far northern lands are in three continents, but they are alike in many ways. They are alike because they are far from the equator. And because they are far from the equator, they have very long, cold winters. In all of these lands the summer is nearly all daylight and the winter is nearly all darkness.



Charles Perry Weimer from Three Lions

A vineyard in Chile in South America. The summer day is bright and sunny. What month do you think it is?

What Kind of Climate?

Turn to the map on pages 222-223 and find South America. A range of high mountains runs the whole length of the continent. Put your finger on the mountains and trace them southward from the equator, past the Tropic of Capricorn, until you come to a narrow strip of green west of the mountains. That is where the picture above was taken.

You see a low mountain at the back of the picture. It looks dry and bare. In front of it a vineyard is growing. A vineyard, you remember, is a field of grapes.

Compare this picture with the one at the top of page 188. The low mountains in the two pictures look very much alike. In both pictures there is a level valley with fruit growing in it.

The places in which these pictures were taken are a long way apart, but they really are much alike. Both have dry summers, with blue sky and bright sunshine every day. Both have rains in winter. The weather in winter is not cold, and not every day is rainy. Even though winter is the rainy season, most days are pleasant and sunny. In both areas the most important crop is fruit. Each area is on a narrow strip of coast, with mountains beyond it.

Both places are alike in another way. You can prove this for yourself. You know where the picture on page 234 was taken. You know that the picture on page 188 was taken near Los Angeles, which you can find on the map. Now measure the distance of each place from the equator. You do not need to find the exact number of miles. You need only see how the two places compare. Does the answer surprise you?

In all the world there are just five areas that are much like the place where this picture was taken. One of them is on the southwestern tip of Africa. One is on the southern coast of Australia. One, as you have seen, is the area near Los Angeles in your own country. Compare the distances of all these places from the equator.

One more area is left. It is by far the largest of all. You saw this area, too, on your journeys. Can you guess where it is? Below are some sentences describing it. They came straight out of your book, and all you need to do is find them. A word has been left out now and then because it would give away the answer and spoil the fun. The strange thing about it is that the same sentences might be used to describe every one of the five areas. Here they are. See who can find them first.

" 'In my country we have dry summers and very wet winters, so you see it is a land that is both wet and dry. If you wish to visit a land of fine fruits, come with me to xxxxx.' And he told us about the lemons, olives, grapes, and other fruits that grow there."

"The slopes of one mountain meet the slopes of another, with very little lowland between. In some places the mountains go right down to the sea and even into the sea."

"Some of the hills here in xxxxx are used for pasture lands."

"By and by we see our first vineyard. We notice that the grapevines have been planted in rows as long as the hills will permit. Posts have been set up and wires have been stretched between them."

"The hot, dry summers are just right for such fruits, since the sun ripens them quickly. Heavy summer rains would spoil olives and grapes."

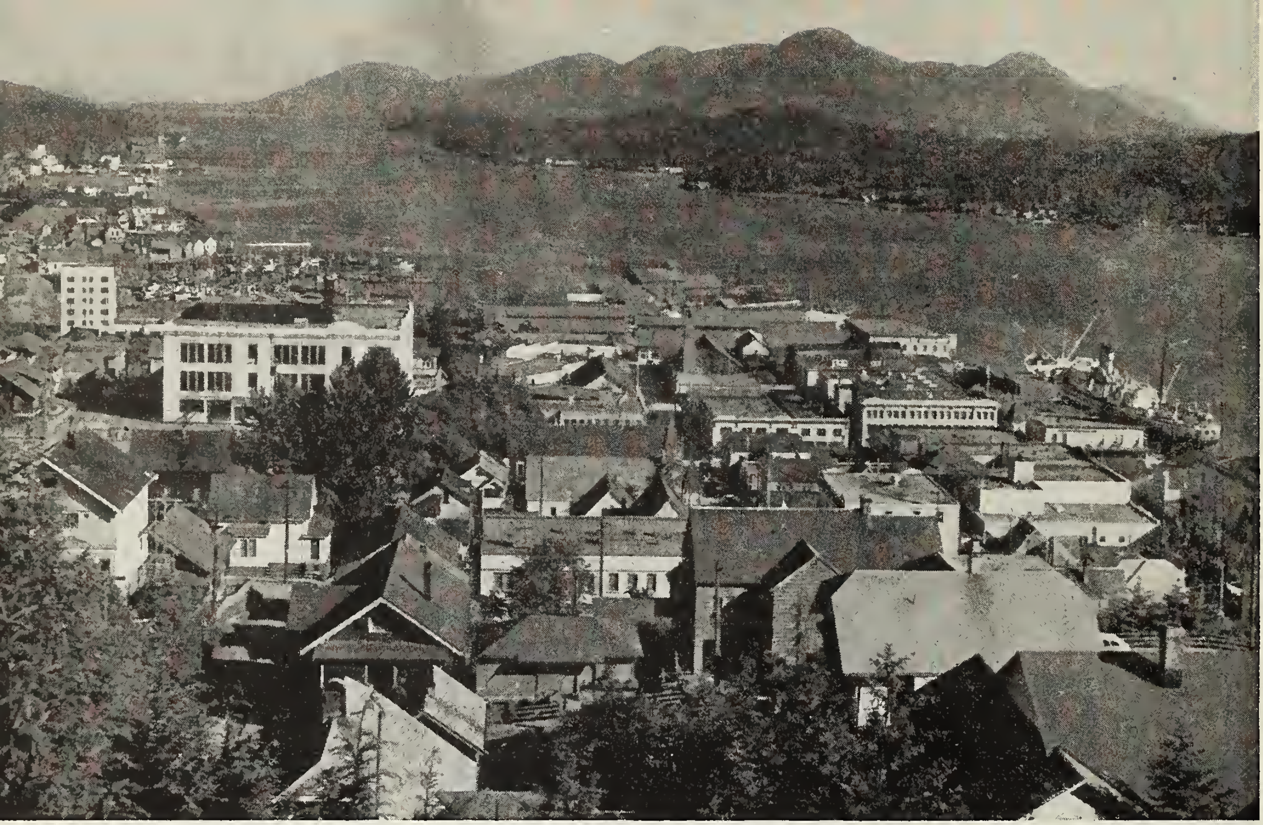
"We get off at a grove of beautiful trees near the roadside. To our delight we see that they are orange trees."

"Do all the lands that border the xxxxx have the same climate as xxxxx? Yes, all the lands have such a climate. In fact, the climate is so much the same along the sea that it is called the xxxxx climate."

What is this kind of climate called? You have surely guessed the answer, even if you have not stopped to find the sentences in your book. This kind of climate has the same name, no matter where you find it in the world.

If you went to live in any one of the five places named, which of the things listed below might you do? Everything in the list that is true of one of the five places is true of all the rest. Be ready to tell why you could, or could not, do each thing. You will have to think carefully about some of them.

1. Point to the noonday sun straight overhead
2. Grow wheat
3. Keep a flock of sheep
4. Pick oranges
5. Make olive oil
6. See the midnight sun
7. Go all summer without an umbrella or raincoat
8. Go camping in the mountains
9. Meet a wild elephant in the tall grass
10. Drive long distances on a straight, level road
11. Go fishing in the sea
12. Live in a large city
13. Listen to the wind in palm trees
14. Pick grapes
15. Ride a camel across the desert



©Screen Traveler from Gendreau

The town of Ketchikan, Alaska, and its harbor. Evergreen trees cover the mountains in this part of Alaska.

What Coast Is Like This One?

The two pictures on these pages were taken in the southern part of Alaska. These pictures were taken farther south than the Alaska pictures you saw on pages 232 and 233.

The coast of southern Alaska is very much like another place you saw on your journeys. Perhaps you can guess at once what the place is. To make sure you are right, do the things suggested below.

1. There are mountains at the edge of the sea in both pictures. Make a list of the other places in the world where you saw mountains at the edge of the sea.

2. Many narrow arms of the sea fill the valleys along the coast of Alaska. They make good harbors, as you see in the picture on this page. List other places in which you have seen narrow arms of the sea like these.

3. The buildings in the picture on the next page belong to a fish cannery. The boats are fishing boats. Fishing is the most important work done in this part of Alaska. List other places in which you found many fishermen at work.

4. A few farmers live in the southern part of Alaska. They raise hay, oats, rye, and potatoes. They also keep dairy cows. Where else in the world have you seen farmers raising the same crops and keeping dairy cows?

5. The mountains of Alaska are covered with heavy forests. Where else in the world have you seen mountains with heavy forests?

One name should appear on all your lists. That is the name of the place that is most like southern Alaska. You can make sure you have the right name. The place is about the same distance from the equator as southern Alaska.

The two places you have been comparing are alike in another way. Both are on a seacoast that faces west. Warm winds blow over them from the ocean. Winters are not so cold as you might expect so far from the equator. The two places are also alike in having long summer days and short winter days.

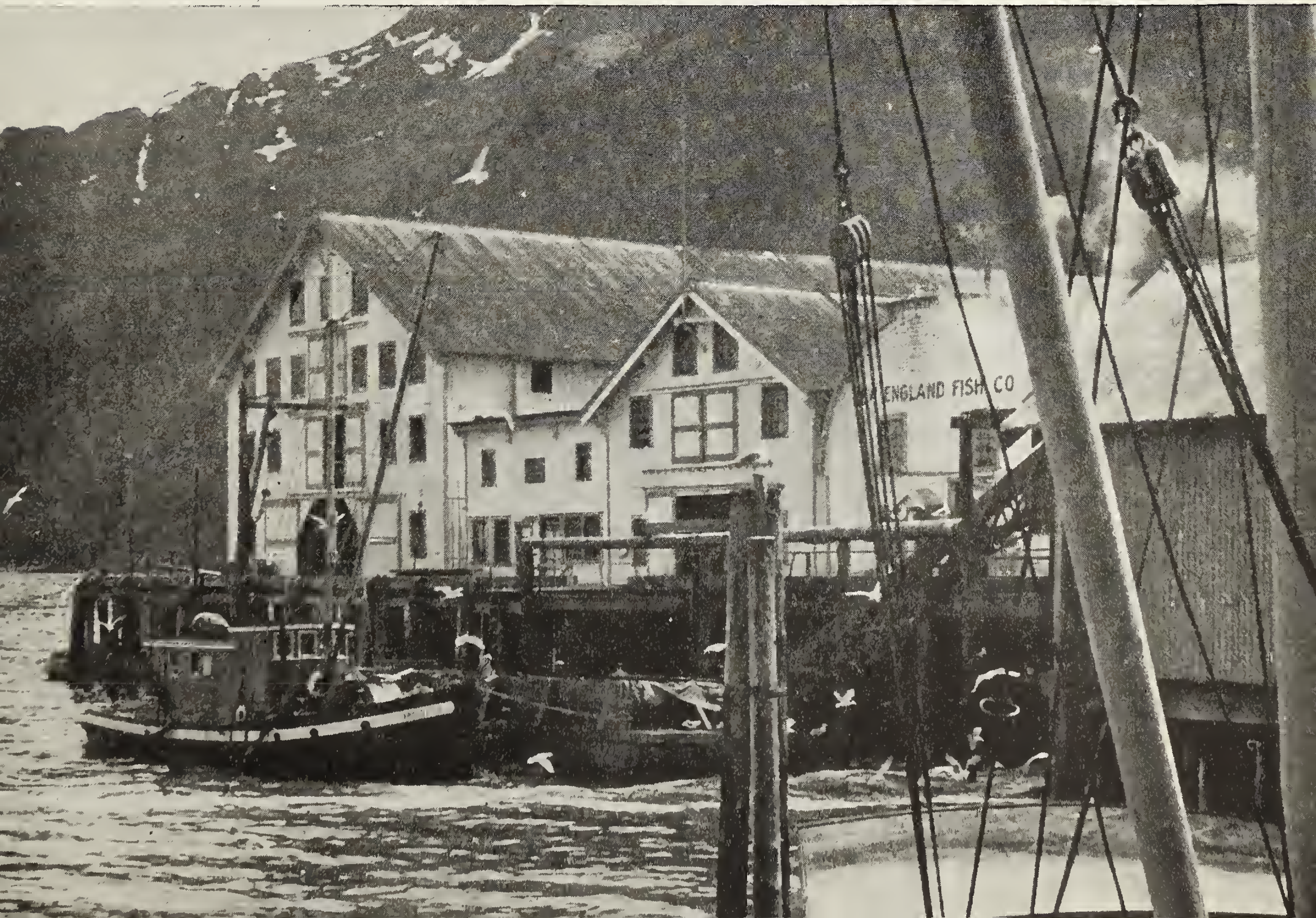
No other place in the world is very much like these two places. No other land happens to be on a west coast, about two-thirds of the way from the equator to the pole, with mountains along the shore and long arms of the sea extending into the land. Trees grow on the mountains in both places because the climate is good for trees. People fish in both places because the cool northern waters have many fish and there are good harbors for fishing boats. Farmers raise the same crops because the climate and the long days in summer are good for these crops. Other crops do not grow well because the summers are not hot enough or long enough for them.

In some ways the two places are not alike. The ways in which they are alike depend mostly upon the climate and the land itself. The ways in which they are different depend mostly upon the people.

The country in Europe has many more people than Alaska has. Less land has been cleared of trees in Alaska because fewer people have gone there to farm. There are not so many cows because there are not so many people to need dairy products. Cows are not taken up into the mountains in summer because this is not necessary. All the cows can find pasture on lower land. As more people go to Alaska to live, it will probably become more like the country in Europe.

A fish cannery on the seacoast in southern Alaska. Do you know why there are so many gulls in the picture?

Philip Gendreau



Where Did the Farmer Live?

Once upon a time a man from Europe came to live in our country. He had been a farmer in Europe, and he hoped to be a farmer in the United States.

At first he thought he would like to try something new. He wanted a farm that was different from his old one. He heard that there was fine farm land near Los Angeles. There, in a valley between bare brown hills, he bought an orange grove.

The farmer from Europe soon sold his orange grove. He did not know how to raise oranges and would need to learn to farm all over again. He felt hemmed in by the brown hills. He was homesick for thick, green grass, for rainy days in summer, and for cold winters.

The farmer had grown much wheat on his old farm. Someone told him about the wheat lands west of the Mississippi River, and so he bought a farm there. He planted a great field of wheat, larger than his old farm and the farms of all the people who had lived in his village.

After a year he sold this farm, too. He was very lonely. The farms in this new land were so large that his nearest neighbor was two miles away. He missed the fine horses he had once owned. Here the farmers used big machines pulled by tractors. He was lonely for the dairy

A farm in the cooler northern part of our country. Here wheat, fruit, hay, and dairy cattle are raised.

Ewing Galloway

Courtesy International Harvester Company

This farmer in Illinois is cutting hay. He will feed it to his dairy cows during the cold winter months.

cows he had milked every day in his old home. He was even lonely for the trees and green grass. Here the climate was very dry and there were scarcely any trees. By midsummer the grass was brown because there had not been enough rain to keep it green.

Hot, dry winds in summer nearly baked the European farmer, who was not used to such heat. Icy winds in winter nearly froze him.

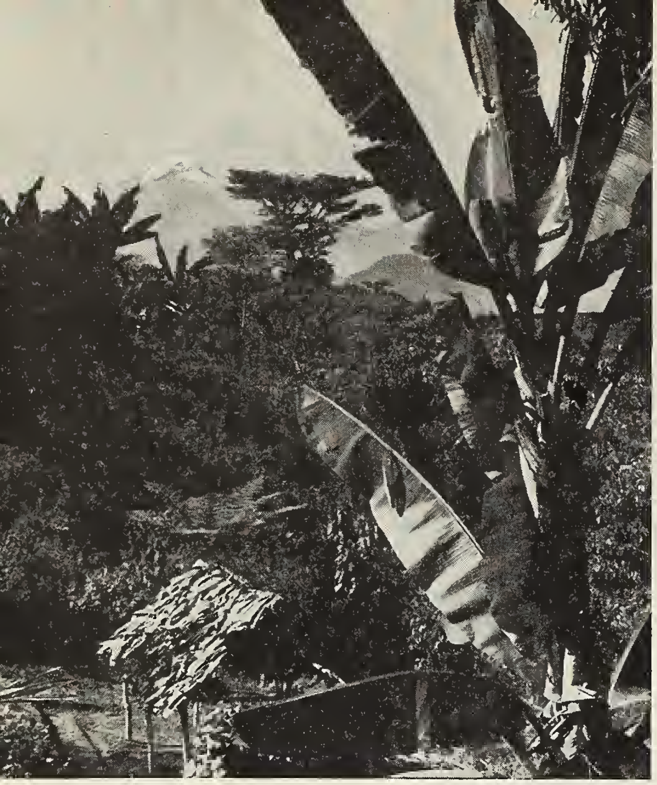
The farmer started out to look for another farm. By this time he knew he did not want one that was different from his old home. He wanted one just as much like it as possible.

At last he found a farm he liked. He and his family are very happy there. The house and other buildings are like those in the picture on the opposite page. He cannot live in a village as he did in his old home. Very few farmers in the United States live in villages. He does not mind, though, for he has neighbors near by. He has fine pasture land and keeps a herd of dairy cows. He likes to go out in the early morning to milk the cows. When he cuts hay for their winter food, he drives a team of fine horses, like the team in the picture above.

Trees are dotted over the fields, and there is a small woodland near the house. The farmer has fields of wheat and oats, a fine vegetable garden, and an orchard of fruit trees, just as he had on his old farm in Europe. He knows how to take care of his plants and his cows. They are like old friends to him.

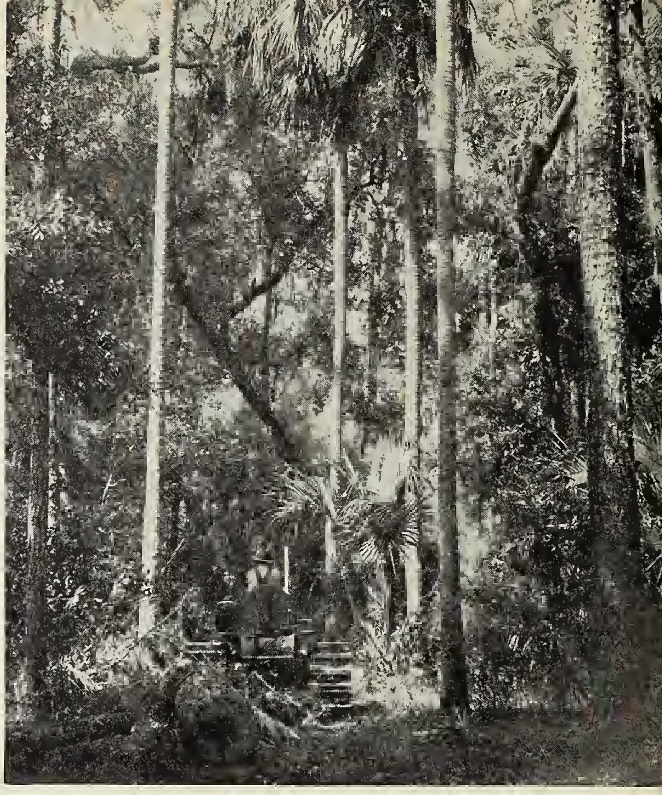
Winter is cold, but not too cold for the farmer. He keeps his house warm with wood from his own woodland. Summer is a little too hot for him sometimes, but the hot weather does not last too long. Always there are green things growing around him, and there is shade to keep off the sun. Even in summer there are rainy days to cool the air. The farmer is very glad to have found this farm that is so much like his old home.

The farmer's old home was in a place you visited on your journeys. Where was it? If you have not guessed already, read the story again, carefully. There is only one place it could have been.



H. Armstrong Roberts

Banana plants growing near Orizaba in Mexico.



Philip Gendreau

Palms and other trees grow in Florida forests.

Are These Tropical Scenes?

In the picture just above, the tall plant with large leaves is a banana plant. You have found bananas growing only in hot lands. The plants crowded close together and the palm-leaf roof make this look like a hot wet land. The picture was taken in Mexico, near the part of the world you saw on page 229. Then what is the patch of snow doing at the back of the picture?

One of the sentences below is the right answer. Which is it?

1. Snow may fall even in lands with a hot climate.

2. Someone put the snow there to make the weather cooler.

3. You are mistaken in thinking that this picture shows a hot wet land.

4. Hot wet lands sometimes have snow.

5. The tops of high mountains are cold, even near the equator.

The forest in the picture above also seems to be in a hot wet land. It has palms, which you have never found in cool lands. Trees and bushes are closer together than they usually grow in drier lands. This is much like forests you saw between the tropics and the equator, but the picture was not taken between the tropics and the equator. It was taken in the peninsula of Florida. You found Florida on the map on pages 210–211, north of the Tropic of Cancer. Two of the sentences below, together, explain the picture. Which are they?

1. This is not the kind of forest you saw near the equator.

2. One kind of land does not stop exactly at a line on the earth.

3. Forests very much like those near the equator may be found in some places north of the Tropic of Cancer.

4. Palms have been planted here and kept warm so that people can see them.

Is This Land Wet or Dry?

The men in the picture below live in the little house at the right. It is made of mud bricks dried in the sun.

The men are taking their goats out to pasture. Can you see anything in the picture for the goats to eat? It does not seem possible that the animals can find enough to eat, but goats are very good at finding food. Some of the dark spots in the picture are clumps of grass. The men may be able to guide the goats to places that have a little more.

Where could the picture have been taken? Think about it like this:

The picture could not have been taken in a hot wet land because . . . . . (Finish the sentence for yourself before you go on.) There are goats, as in the picture on page 117. Still, this picture could not have been taken in a land like Switzerland because . . . . . It could not have been taken in a place like the Paris Basin because . . . . .

Perhaps you can think of other places in which it could not have been taken, and reasons why. Now, where could it have been taken? It was not taken in any of the following places, but it was taken in a place very much like one of them. Which place is it most like?

a. Amazon Valley   *c.* Lapland
b. Sahara   *d.* Tasmania

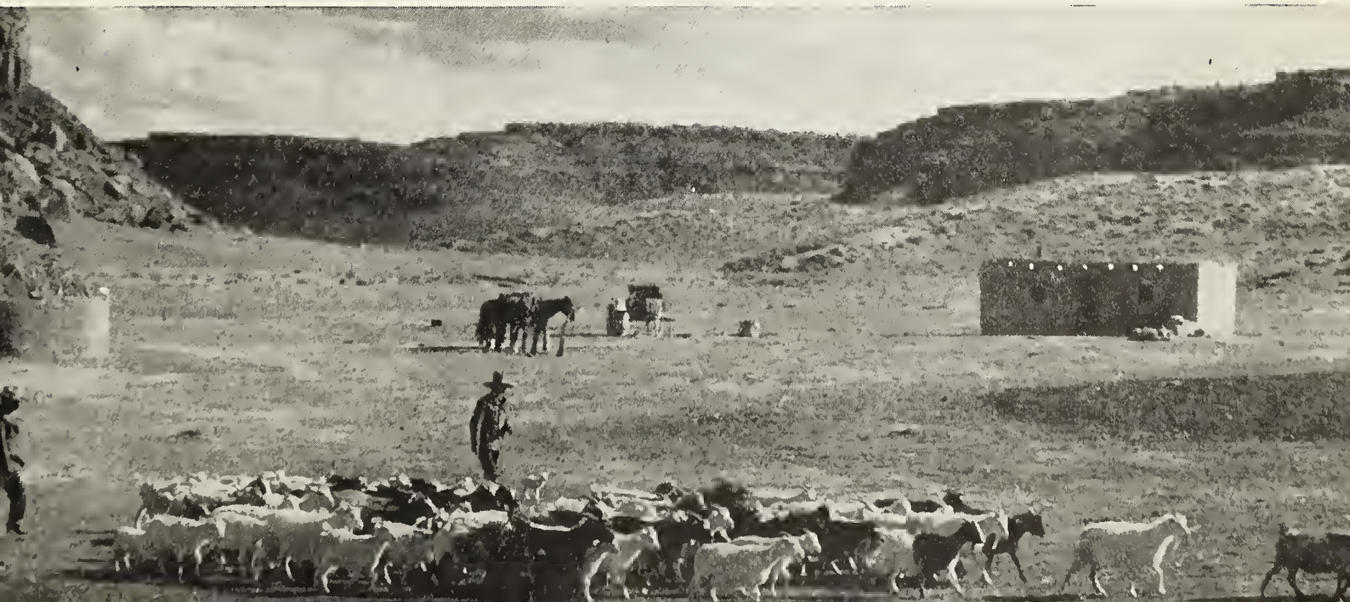
Although this place is very much like the . . . . ., it is higher. It is easy to tell that it is higher, because dark brown stands for land that is . . . . . to . . . . . above sea level. The map on pages 222–223 shows that the highest parts of the Sahara are not more than . . . . . above sea level. Since the land in the picture is higher than the Sahara, it probably has . . . . . weather.

Since few plants grow here, there is probably not much . . . . . The house is made of mud brick, like those of . . . . . Such houses are used only in . . . . . lands. Heavy rains would melt the bricks.

You see from this picture that the Sahara and the center of Australia are not the only deserts in the world. You would find deserts in every continent that is crossed by the Tropic of Cancer or the Tropic of Capricorn. Every large area of very dry land in the world is crossed by a tropic. Nearly all extend farthest on the side of the tropic away from the equator. All of them begin at the western coast and stretch eastward.

A picture taken in the southwestern part of the United States in the area colored dark brown on your map.

H. Armstrong Roberts



Where Did You See Grass Lands?

When you traveled from the Congo Valley to the desert, you crossed wide grass lands. At first the grass was tall. Then, as you came into the desert, you saw short grass. It did not cover the ground, but was scattered in clumps. There is such land in the picture of the Bedouin tent on page 59.

You saw more grass land when you visited the cattle station in Australia. The land in the picture on page 168 is like this. The cattle have eaten and trampled the grass around the well, but they have been traveling over land with a little grass. You saw grass lands in Asia as you flew from Murmansk to the Red Basin. On page 213 you saw dry grass lands in our own country.

The world has many in-between lands like these. They are too dry for farmers to raise crops on them, but they are not too dry for grass and a few other plants. There may even be a few trees.

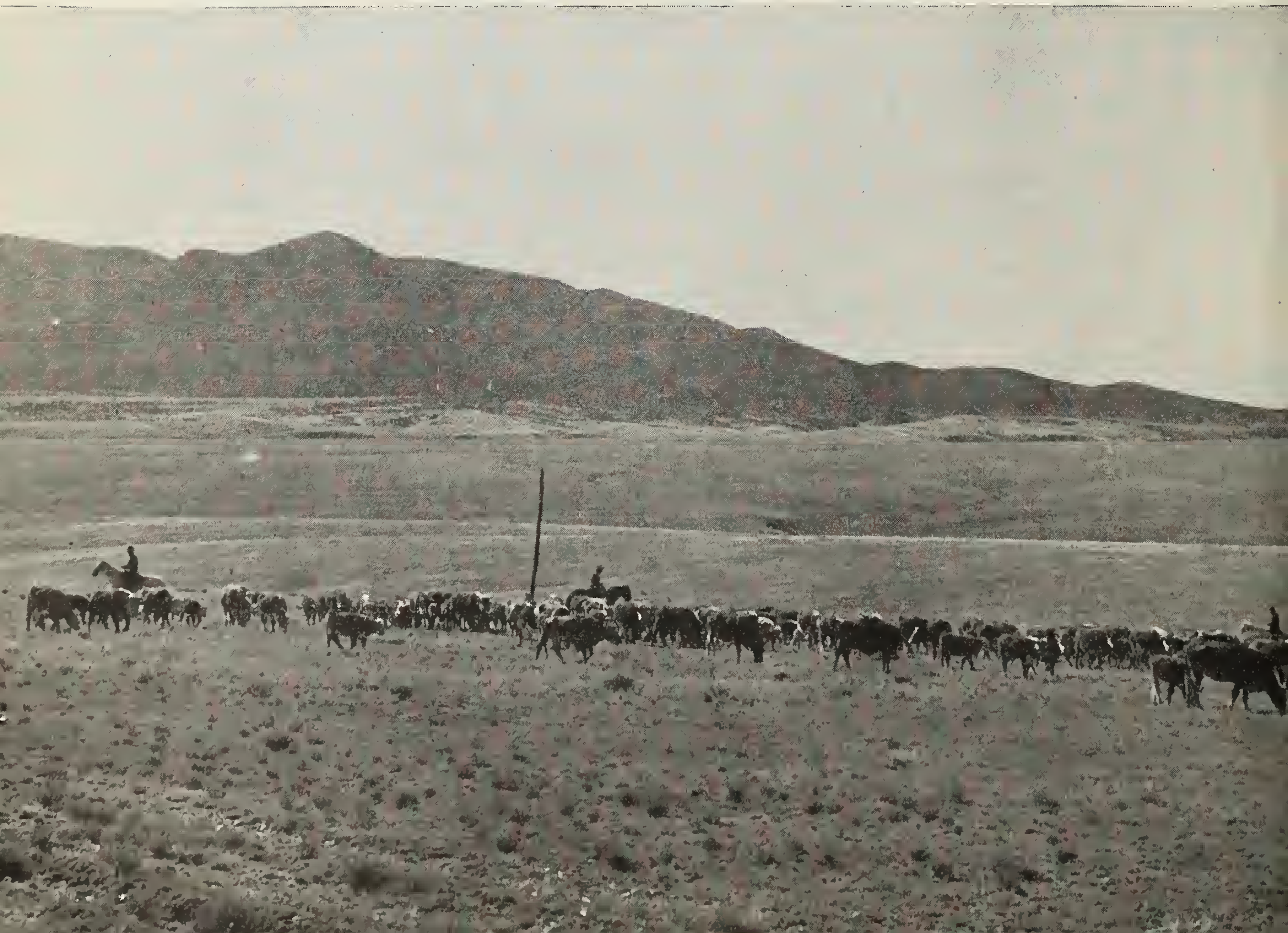
Both pictures on these pages show dry grass lands. The picture below was taken in the southwestern part of our own country, a little east of the Colorado River. You can see where it is by looking at the map on pages 210–211. When you have found it there, find it again on the map on pages 222–223. You learned on pages 208–209 how to find the same place on two maps by comparing them.

The picture on the next page was taken far away in South America, in the country named Argentina on the map.

You have caught only glimpses of grass lands as you traveled. You may be

Cowboys still ride the range with their herds of cattle in the dry grass lands of southwestern New Mexico.

Century Photos



Charles Perry Weimer from Three Lions

In the grass lands of Argentina cowboys round up the cattle just as they do in the grass lands of our country.

surprised to find out how much you really know about them. The sentences that follow are all about dry grass lands. Each sentence in the first column says something that is true about the grass lands. In the second column you will find a sentence that proves each of the statements in the first column. Sentences in the second column are not in the right order. You are to match each statement in the first column with its proof in the second.

1. Dry grass lands may be on either side of the equator.

2. Dry grass lands may be near the equator or far away.

3. Dry grass lands may be at various heights above sea level.

4. Few people live on the dry grass lands of the world.

5. Dry grass lands are used as grazing lands.

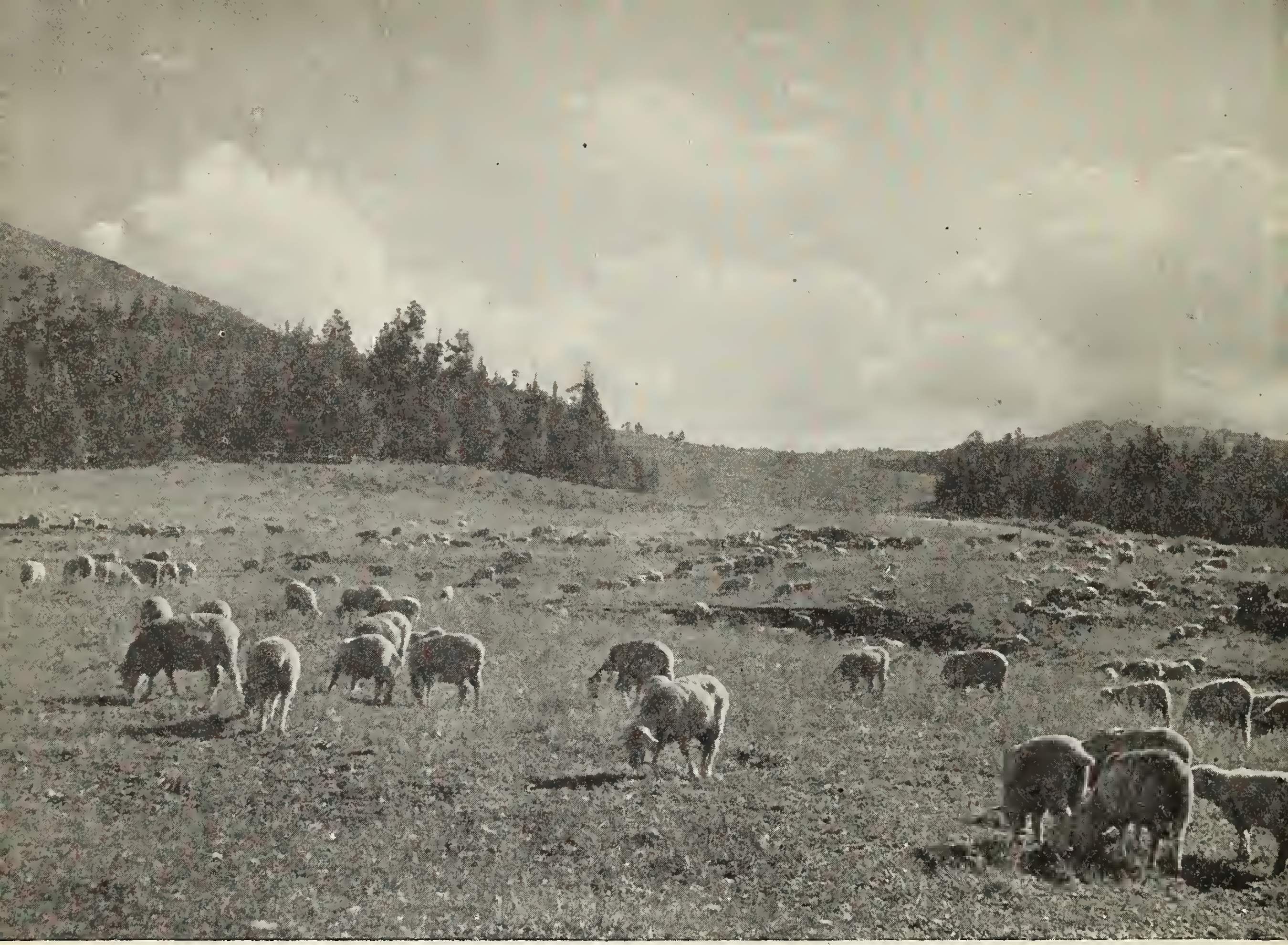
a. There are dry grass lands along the Tropic of Cancer in Africa, and in the temperate lands of North America and of southern South America.

b. All the pictures of dry grass lands in this book show herds of cattle or flocks of sheep.

c. There are dry grass lands in North America, in Asia, in the far southern part of South America, and in Australia.

d. The only home in any of the pictures of dry grass lands is one Bedouin tent. Even the Bedouins do not always stay here. All the pictures show great expanses of land without a house.

e. The picture on the facing page was taken in an area shown in light brown on the map. The picture above is in an area shown in green, and the one on page 213 is in a dark-brown area.



Ewing Galloway

Sheep feeding in summer pastures in Wyoming. The sheepherder enjoys the beautiful scenery while he works.

Are These Pastures High or Low?

Jack Rogers is a sheepherder. He lives in the western part of our own country. It is a beautiful spring morning and he is packing slabs of bacon and sacks of flour and cans of fruit and vegetables in a covered wagon. He is whistling, for he is going to spend the summer in the most beautiful place he knows. He is going to the wide grassy meadows you see in the picture above. This is what Jack thinks as he works:

"In faraway parts of the earth, people are doing what I am doing this morning. They are getting ready to take their animals to summer pastures. We are all going to have a finer summer than the people who stay at home, for we are going where the air is clear and cool.

"I am glad I don't have to live in a little hut all summer, as those people in Switzerland and Norway do. My wagon is a much better summer home. I do not need to stay in one place. Whenever I want to move to new pastures, I can hitch up my horses and go.

"I don't have to milk cows and goats as they do, either. My sheep have had their wool clipped, and it has been sold. Now all they need is plenty of fresh grass and good water. Then they will grow thick wool for next year's shearing."

Where is Jack going to take his sheep? You cannot name the spot, of course, but you can tell the kind of country.

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